

FIFTH

BIENNIAL REPORT

OF THE

STATE ENGINEER

TO THE

GOVERNOR OF UTAH.

---

1905 and 1906.

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Salt Lake City,  
THE DESERET NEWS

1907

LETTER OF TRANSMITTAL.

Salt Lake City, Nov. 30, 1906.

*Honorable John C. Cutler,  
Governor of Utah:*

SIR:—As provided by Section 5, Chapter 108, Laws of 1905, I submit herewith a report of the work of this office during the past two years.

Very Respectfully,  
CALEB TANNER,  
State Engineer.

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FIFTH BIENNIAL REPORT  
OF THE  
**STATE ENGINEER**

For the Years 1905 and 1906.

REVIEW OF THE WORK OF THE STATE ENGI-  
NEER'S OFFICE.

From the time the "new law" went into effect, May 12, 1903, up to Nov. 30, 1906, there has been received in the State Engineer's Office a total of 1154 applications for water. Of these 665 have been for irrigation, 243 for power, 73 for mining, 94 for stock watering, 44 for domestic and municipal purposes, and 35 for purposes other than those enumerated. Three hundred and thirty-three applications have lapsed, 47 have been withdrawn and 54 rejected.

Following the order and time limits given above, a total of 286 applications has been approved. Of these 115 were for irrigation, 81 for power, 29 for mining, 30 for stock watering, 18 for domestic and municipal purposes, and 13 for miscellaneous purposes.

In the same period 13 certificates have been issued, 2 for irrigation, 1 for power, 4 for mining, 2 for stock watering, 1 for domestic and municipal purposes and 3 for miscellaneous purposes.

There were installed in the Weber River Basin 388 weirs and 235 rating flumes in 1903-4. On Manti Creek 20 weirs were placed in 1905.

In the Weber District, the canal lines and irrigated lands in 564 sections have been surveyed. Eighty-three sections were surveyed in 1903-4 with the "Transit-Standia" method. The balance were surveyed with plane tables, 149 sections in 1905, and 332 sections in 1906.

The office work on the "unit maps" has progressed so

that 284 sections have been drafted into finished form; 26 in 1903-4; and 258 in 1905-6. One division map containing 21 sections was drawn in 1903-4, none in 1905-6.

The land ownership has been worked up in 162 sections and properly recorded in a book for that purpose. This record involves ownership of land, canal through which water supply is drawn and the cultural detail. No sections were worked up in 1903-4 and 162 in 1905-6.

Diversion records have been obtained; 30 in 1903-4 and 503 in 1905-6.

Surveys for the State Board of Land Commissioners in the matter of the Fort Crittenden cemetery in 1905, for the Board of Land Commissioners on the Hatchtown Reservoir project in 1906, for the State Industrial School in the matter of a water supply for that institution in 1906, and for the State Board of Corrections in the matter of a water supply for the State Prison in 1906, constitutes some of the incidental labors of the State Engineer's Office.

#### OFFICE FEES.

The State Engineer's Office has received the following fees since the "new law" went into effect May 12, 1903:

1903 .....	\$ 563.35
	1,075.15
	2,307.55
1906 to Nov. 30, 1906.....	<u>2,384.35</u>
Total .....	\$6,330.40

These fees have been paid into the State Treasury as the law provides.

## SUMMARY OF APPLICATIONS.

Made between May 12, 1903, and Nov. 30, 1906.

## IRRIGATION.

DRAINAGE AREA.	No. of Applications.	Water applied for in		Area to be Irrigated.
		cu. ft. per second.	acre feet.	
Colorado River.....	17	12,712.6	200	65,388.0
Green River.....	403	34,268.304	6,761,619	2,323,982.97
Sevier River.....	43	1,707.4	7,845	84,452.9
Utah Lake-Jordan River.....	58	990.57	12,434	116,719.5
Great Salt Lake .....	59	1,105.989	2,250	45,720.98
Weber River.....	49	7,919.21	207,100	2,191,876.0
Bear River.....	25	2,602.40	262,701.	298,740.62
Total .....	654	61,306.473	7,254,149	5,126,890.97

## POWER.

DRAINAGE AREA.	No. of Applications.	Water applied for in		Horse power to be generated
		cu. ft. per second	acre feet	
Colorado River.....	3	1,610	—	10,000
Green River.....	40	29,635	6,823,120	827,491
Sevier River.....	51	5,980	2,631	82,605
Utah Lake-Jordan River ..	95	3,736.2	250.3	169,907
Great Salt Lake .....	17	460	600	32,440
Weber River.....	18	4,112	215,100	112,355
Bear River.....	19	2,512	—	20,796
Total .....	243	48,045.2	7,041,701.3	1,255,594

## MINING.

Drainage Area.	No. of Applications.	Water Applied for in cu. ft. per sec.
Colorado River .....	3	2.0
Green River.....	8	12,813
Sevier River.....	13	29,503
Utah Lake-Jordan River .....	23	110.08
Great Salt Lake .....	19	52,201
Weber River.....	3	0.89
Bear River.....	4	4.0
Total .....	73	211,487

## DOMESTIC AND MUNICIPAL.

Drainage Area.	No. of Applications.	Water Applied for in cu. ft. per sec.
Colorado River .....	—	22.60
Green River.....	12	
Sevier River.....	—	523.22
Utah Lake-Jordan River .....	22	
Great Salt Lake .....	3	3.0
Weber River.....	2	600.05
Bear River.....	5	0.973
Total .....	44	1,149,843

## STOCKWATERING.

Drainage Area.	No. of Applications.	Water Applied for in cu. ft. per sec.
Colorado River .....	23	937
Green River.....	16	1.97
Sevier River.....	46	9,469
Utah Lake-Jordan River .....	2	1.1
Great Salt Lake .....	7	1.24
Weber River.....	—	—
Bear River.....	—	—
Total .....	94	14,716

## MISCELLANEOUS.

Drainage Area.	No. of Applications.	Water Applied for in cu. ft. per sec.
Colorado River .....	3	0.04
Green River.....	3	1.5
Sevier River.....	4	1.0
Utah Lake-Jordan River .....	10	645.8
Great Salt Lake .....	6	96.86
Weber River.....	5	6.55
Bear River.....	4	15.0
Total .....	35	766.75

## WEBER RIVER WORK.

Entering upon the duties of the State Engineer's Office on the 14th day of March 1905, the main business was found to be the hydrographic survey of the Weber River. In working out that interesting problem a definite program was in operation, that program is clearly stated in the following quotation: (See Bulletin No. 168, U. S. Department of Agriculture, pages 65 and 66.)

- I. "The first step was to make an examination of each ditch to determine the proper place for putting in a measuring device, and the size and kind of device best suited to each ditch. Detail drawings and bills of material for each structure were then made. The device adopted is a flume with a removable trapezoidal weir plate. The weir plate is removed during high water and replaced in low water. It is also raised whenever it is necessary to clear out the sediment which has collected behind it. The engineer and his assistants also supervised the placing of the flumes, to insure its being properly done. As there are 1,175 ditches on this river system, this involved a great deal of work. The engineer reports that these devices have been put in in at least 90 per cent of the ditches."

"After the weirs have been set readings are made at frequent intervals and recorded, so that at the end of a season the records of the engineer will show how much water has been used by each ditch throughout the season, when use began, and when it ceased. These records will give the court full information as to the use of water at the present time."

- II. "The location of canals and of the land irrigated is ascertained by careful instrumental survey, in which distances are determined by stadia and elevations by vertical angles. From these surveys three sets of maps are made, known as the unit maps, the diversion maps, and the division maps. A division map shows a large section of the stream system. Each unit map represents a single numbered section, and shows all diverting ditches and laterals, the positions of all measuring devices, the boundaries of each individual farm, what portions of each farm are irrigated, the locations of orchards, buildings, towns, streets, roads, and other natural or cultural features. Contours are also shown. The diversion maps

show each ditch system complete and give the same data. On the unit and ditch maps each farm is numbered. This farm number is recorded in a book called the 'Register of Rights,' in which, opposite the farm number, is written the name of the owner of the water right for that farm.. There is space for recording changes in ownership."

- III. "While making field surveys the engineer's assistants collect information as to the time of construction, the first use of water, and all subsequent changes. The facts collected regarding each ditch are recorded in a book called 'Record of Diversion No. —.' The book contains blanks for the facts required by law, there being a blank for the ditch as originally constructed and one for each subsequent change."

For the purposes of discussion the program has been placed in the three subdivisions given above.

### 1.

The first part of the program, viz: examination of ditches and installation of measuring devices, was practically completed at the close of the season 1904. (See State Engineer's report 1904, p. 48.)

During the biennium just closed, no additional work along this line was performed.

During the season 1903 and 1904 a fairly complete record of the quantity of water that each ditch was diverting was made by the engineers in charge of the Weber River work—at the close of the 1904 season that material was worked up into the form published on pages 10 to 45 inclusive of the 1904 report.

In the beginning of 1905, it appeared that the amount of revenue devoted purely to water measurement and the installation of devices for the measurement of water—something like 75 per cent of the total sum spent on the Weber would need to be curtailed if much headway was to be made toward completing the survey of the irrigated lands. There had been in the Weber River area, a set of county officers known as water commissioners, which the law made partially responsible to the State Engineer. In the beginning of 1905 it was hoped that if these officers were properly approached and in-

structed, they would be able to furnish the water measurement detail, an essential part of the work the state was engaged in; however, the result while not without value, was not at all flattering. The curtailment of their time of service by the county commissioners and lack of instruments seemed to be the principal drawbacks. In 1906 the state endeavored to enter into a compact with the several counties covering the Weber Basin to furnish instruments and pay part of the water commissioners' salary and expenses with the understanding that they would be under the control of the State Engineer's office, the counties by this arrangement securing larger and better service with no higher expense than under the old system.

The following letter was sent to the County Commissioners of Summit, Morgan and Weber Counties:

Jan. 19. 1906.

*County Court, \_\_\_\_\_ County, \_\_\_\_\_, Utah:*

GENTLEMEN:—It is desirable that a closer relationship should exist between the State Engineer's Office and the water commissioners of your county. In order that the work of the water commissioners cover, not only the matter of the distribution of the water as heretofore during that part of the season when the important water rights demand such distribution, but that they should also make as extended a record as possible of the water situation in the whole area over which their jurisdiction extends.

In order to accomplish this end, they should be provided with water meters to measure the natural streams, canals and ditches that are not provided with weirs, or where the weirs are not in condition to give accurate results. Under present conditions when a stream is without a weir or where the weir is not in proper shape, the measurements returned to this office by the water commissioners are not satisfactory to go into the official record which the state is preparing to submit to the court.

The work of the water commissioners is a public work, which during the next season may be made to serve two purposes—1st. The proper distribution of the water among its owners. 2nd. The making of a water supply record to submit to the district court. If proper directions are given to the water commissioners and they be provided with instruments,

both these ends might be served by the same men at the same time. If this were done, the work of the next year or two would train a set of officers able to efficiently administer the law after the Weber is adjudicated and the statute of 1905 becomes operative in the Weber Basin. The work of the water commissioners collecting the information indicated above will prepare them for the place of supervisors contemplated in the 1905 law.

It is desirable to know from the county court if it is willing to co-operate with the state in getting a more extended record of the water supply in the county. First by providing the water commissioners with the necessary instruments to obtain such a record and second by instructing them to extend their work as far as they are able over the whole county.

As the court is well aware, there is no difference of opinion about the desirability of adjudicating the Weber at the earliest practicable date. One of the essential elements in that adjudication is the water supply record, and that record can be most economically obtained by the present water commissioners, if they are properly provided and make their work sufficiently extensive.

The co-operation of the county with the state will materially help in bringing the Weber situation to an early issue. In assisting to this desired end, the county would not only be training officers for future use, but it would also be contributing towards settling the existing controversy to water rights in its area.

An expression of the county court as to the terms on which it might be induced to join the state in this matter would be much appreciated at this time. If a personal interview with the State Engineer seems desirable in order that the matter might be discussed more in detail, the State Engineer will come whenever it is convenient for the court to receive him. Whatever action is taken should be with expedition, that the plans for this year be outlined before the irrigation season begins.

Very respectfully,

(Signed)

CALEB TANNER,

State Engineer.

No answer or acknowledgement was received from Summit County.

A cordial reply was received from the Morgan County Commissioners, which developed into an agreement that the

water commissioner of Morgan County should be furnished with proper instruments, that he should perform his work under the direction of the State Engineer, and that the state should pay one-third of his salary and expenses.

The answer from Weber County constitutes such a lucid comment on irrigation administration in Weber County, not only in point of fact, but particularly in point of attitude, that it deserves an extended circulation among the irrigators of the commonwealth. It shows with such clarity the inadequacies of the present situation from several points of view that it is printed here in extenso:

Ogden, Utah, January 23, 1906.

*Caleb Tanner, Esq., State Engineer, Salt Lake City, Utah.*

DEAR SIR:—You represent in your communication of January 19th, 1906, "It is desirable that a closer relationship should exist between the State Engineer's Office and the water commissioners of your county. In order that the work of the water commissioners, not only in the distribution of the water, during that part of the season when important water rights demand such distribution, but they should also make an extended record as possible of the water situation, in the whole area over which their jurisdiction extends."

"In order to accomplish this end, commissioners should be provided with water meters to measure the natural streams, etc., etc., if they are not provided with weirs, or where weirs are already in use, but are not in condition to give accurate results that present measurements as reported by water commissioners are not satisfactory and cannot go into the official record which is to be submitted to the Court."

Allow us to say, Engineer Tanner, regarding a closer relationship being necessary between your office and the Board of County Commissioners with a view to better or more satisfactory results being obtained, the doors leading to our Board Sessions are always open and audiences have been cheerfully given to your predecessor in office. As regards this law under which the water commissioners are acting without stopping to ventilate our opinion regarding its constitutionality, the County Board have regularly, appointed water commissioners and paid promptly their per diem as per State Engineer's report as to the services rendered and the amounts due them.

In addition to the distribution of water in the season thereof, you say these "water commissioners should make as extended a record as possible over the entire area their jurisdiction extends. That they should be provided with water meters to measure all streams, canals, ditches, etc., to give accurate results."

You then comment upon the education this training will give, "thereby fitting these men with the information necessary to prepare and make them competent, efficient supervisors to act under the law of 1905."

Weber County commissioners have acted in good faith in the appointment of water commissioners.

Experience, however, has taught that the law has failed and still fails to give these commissioners sufficient backing or support in their official capacity.

The rules they make regulating the appropriation and distribution of the waters of Ogden and Weber Rivers have been set aside, overridden and trampled under foot and the water commissioners have no power under this law to enforce rules and fix a penalty or penalties for their violation.

For three seasons the persuasive moral influence these men wielded in appealing to water users at the head of the stream to make an honest, equitable adjustment and distribution of the waters had a very timely and beneficial effect. Quite different has the experience been during the past two years, especially so, for the year 1905. Water users, in this County, have been loud in their exclamations that but little or no benefits have been derived from the services of the water commissioners. The Board of County Commissioners have therefore, about concluded to make no appointments for the year 1906.

Aside after such a conclusion being reached which is highly probable we incline to the opinion that we do not legally possess the right or power to spend public funds—the taxpayers' money in purchasing and placing the weirs referred to in the water streams, canals, etc., or to pay for the time necessary which said water commissioners are advised to spend to acquire information for records, or in divers other ways to supply themselves to become competent or proficient supervisors to enable them to act as you suggest under the law of 1905. A further reference to your letter, you state, "the Court," meaning, I presume, the Board of County Commissioners, "is well aware there is no difference of opinion

about the desirability of adjudicating the waters at the earliest practical date, the co-operation of the county with the state will materially help to bring the water situation to an early issue."

The facts are, Mr. Tanner, Weber County, by its Board of County Commissioners, has appointed for five years past, two water commissioners, one over Weber River and the other over Ogden River. In making these appointments, our duty ended. These water commissioners, as the law directs, are placed under your control. They report their services and time to you. The County has paid the bills. Weber County has, at sundry times for a great number of years, contributed money and service to bring about a solution of the prevailing controversy or controversies over water right complications.

Many laws have been enacted by the legislature to aid in the solution of this vexatious question.

In the judgment of the Board, shared in largely by the public, the only solution of the water problem is to store the spring flood waters of these rivers by building reservoirs for that purpose.

In the absence of this being accomplished, money spent in courts of law, in committees of arbitration, by appropriations made by the State or Counties will not effect a settlement, of what has become, long since, a perpetual standing evil, a menace to the peace, well-being and prosperity of the County.

At any time or date you may name, by giving three days notice, the Commissioners of Weber County will be most happy to give you, in the presence of their attorney, an audience on this subject and, if you so wish, will invite to be present on such occasion, representatives from the various water companies of this County.

Yours very respectfully,

On behalf of the Board,

(Signed)

JOSEPH STANFORD,  
Committee.

## II.

The main part of the work done during the past two years comes under the second division of the program given above, viz.: The location of the canals and the irrigated lands. The system of collecting this data, as outlined in the

program quoted, was not adhered to, the reasons for departure were submitted to the State Board of Examiners in the following language:

"When I first entered upon the duties of the office in March, 1905, the transit-stadia method was in use in making the surveys on the Weber River system. The engineers that were hired for this service being required to furnish their own instruments.

It is uniformly recognized among engineers that the most economical and expeditious instrument for general mapping is the "Plane Table." Like many other instruments in modern use, the "Plane Table" is particularly specialized for a specific kind of work (exactly the kind which the state has been doing on the Weber since 1903). Unlike the transit, the "Plane Table" has no general utility, it would therefore be manifestly unfair to require an engineer seeking engagement with the state to buy an instrument of such narrow use in his profession as a necessary prelude to his employment; furthermore it is not the practice of the general government nor of the neighboring states to require the engineers in their employ to furnish their own field instruments, the practice seems to be confined to some private corporations. The state, therefore, to advance the survey on the Weber River cheaply and rapidly purchased three complete "Plane Table" outfits at a cost of \$727.00."

These instruments have been in continuous use since their purchase, except for the three winter months. The work of surveying the canals and lands has been advanced so that the field work was completed Nov. 30, 1906.

It was the intention in 1903 to assemble the material of the field surveys on three sets of maps as given in the program cited above, all to be made on mounted sheets of double paragon paper. This feature of the original intention has been modified. The "Unit Map," as described, is still adhered to, except that the contour feature has been replaced by signs showing the direction of stream flow and irrigation. The plane table sheets come from the field in pencil in the "Unit Map" form, the scale being 330 feet to the inch, the field sheets are transferred to tracing cloth, negatives are made and white cloth prints made therefrom for use in the District Court.

It is expected that by photographic reduction of the "Unit Maps," the division map mentioned in original program can be constructed. Two representative photographic reductions of the "Unit Map" are shown in the appendix.

It was in the original program to make a complete soil survey, the detail of that work being outlined as follows in the 1904 report, page 51:

"Through co-operative arrangements made with Director Widtsoe of the United States Experiment Station at Logan, the work of the State Engineer as herein above described is followed by a complete soil survey of all lands comprised by the Weber River system. The soil survey is made by members of the experiment station corps, and is delineated on duplicates of the unit maps prepared by the State Engineer (see appendix XIV.) The character of the different soils and subsoils found and the extent of each, are indicated on the map by means of different colors. The plane of and depth to the soil water are also shown, indicating the areas that require drainage and also the available sub-surface water supply. The station also reports the results of the laboratory tests which are obtained from the numerous samples of soil that are procured by the field corps."

This feature of the original intention has been changed as follows: In the course of the construction of the "Unit Map," the plane table party passes over the soil of the tract that is being mapped, notes are made of the soil condition observed, the depth to ground water, etc. Descriptive accounts are written of the facts observed, these written statements are numbered in the same succession as the "Unit Maps" and will be submitted as supplementary thereto.

The following is representative of this feature of the work, as it has been done:

"Plat N.o 12. Section 30, Township 1 south, Range 4 east.

"The slope of the land is generally northward, quite distinct on the south and west side of the section, rather flat toward the center and northeast quarter.

"The land is almost constantly flooded during the fore part of the season, and in the latter part there is a scarcity of water. Owing to the flooding of the higher lands and to

its being rather flat and not drained, the land in the northeast quarter of the section has become mostly marshy.

"The soil is black loam with gravel in the southern and western portions and dark clay loam toward the center and northeast quarter.

"As the waste and seepage water flows northward, it is caught up and used again and again."

### III.

This work as it was outlined in the original program has been attempted. This is without doubt a just designation of what has been accomplished in this very important division of the information necessary to make an equitable determination of water rights on the Weber.

Very little headway had been made at the close of 1904, and though an extended and continuous effort has been made during the two years just ended, the result is far from being what the law defines as necessary. That this record is meager, inadequate and "general" beyond description is chargeable to the lassitude and indifference of the canal owners, individual and corporate.

While the law does not specifically require that this record be obtained by the State Engineer, it is an essential part of the information required by the court before adjudication can be made. It was undertaken under the general authority conferred in Section 6 of the law, in a spirit of helpfulness toward the canal owners. The return, however, has not warranted the outlay.

### DUTY OF WATER.

Under the direction of Mr. McLaughlin of the Agricultural College Experiment Station, a study was made during the season of 1906 of the "Duty of Water" and "Local Irrigation Practice" in Morgan and Weber Counties. The information on both these heads should give considerable aid to the court in the adjudication of the water rights on the Weber River.

For the work on the subjoined program, that was tributary to the Weber, the State Engineer's office paid one-half the salary and field expense of Mr. McLaughlin's assistants.

**SUGGESTIVE OUTLINE FOR OUTSIDE IRRIGATION EXPERIMENTS.**

In Co-operative Work of the United States Department of Agriculture for the Utah Experiment Station. For season 1906.

*Sugar Beet Experiments.*

From six to ten rows of beets to the plat and plats from 200 to 300 feet in length.

Plat 1. To receive at each irrigation approximately 1-3 more water than Plat 3.

Plat 3. Is the check plat and is to be irrigated and cultivated according to the practice of the locality and as suggested by the farmer or Farm Foreman.

Plat 4. To receive the same irrigation as Plat 3, except that it is to receive one irrigation in about two weeks after the last irrigation of Plat 3.

Plat 5. This plat is to be irrigated by using a very small stream in each furrow, the water to be turned off when it shall have reached the lower end of the plat.

Plat 6. To be irrigated with a stream approximately twice the size used for Plat 5 and water to be turned off when it shall have reached the lower end of the plat. This plat is then not to receive additional cultivation.

*Potato Experiments.*

From five to fifteen rows to the plat, plats to be from 200 to 300 feet in length.

Plat 1. This plat is to be irrigated three times for each twice that Plat 3 is irrigated and to receive at each irrigation about one-half less water than Plat 3.

Plat 2. This plat is to be irrigated twice as often as Plat 3, using about half as much water at each irrigation.

Plat 3. This plat is to be the check plat and shall be irrigated and cultivated subject to the suggestion of the farmer or Farm Foreman.

Plat 4. This plat shall be irrigated by using a small stream of water to be turned off when it shall have reached the lower end of the plat. It shall be irrigated on the same day or during the same water turn as Plat 3.

Plat 5. This plat is to be irrigated very frequently by using a small amount of water at each irrigation.

Plat 6. This plat is to be irrigated on the same day as Plat 5, using about twice as much water at each irrigation.

#### *Lucern Experiments.*

Inasmuch as the wet spring will prevent the irrigation test upon the first crop, the following suggestions are applicable to the second and third crops only. A strip from twenty to thirty feet in width and from 200 to 400 feet in length to be used for each plat.

Plat 1. To receive one more irrigation for each crop than is Plat 2, and the last irrigation for each crop to be about one week before cutting.

Plat 2. This is to be the check plat, and is to be treated as suggested by the farmer or Farm Foreman.

Plat 3. This plat is to be irrigated just after cutting, and then harrowed as soon thereafter as possible with a spring toothed harrow, the teeth set nearly, if not quite, straight.

#### *Grain Experiments.*

These plats to be from 20 to 30 feet in width and 200 to 400 feet in length.

Plat 1. To be irrigated once only and this irrigation to be applied after the grain reaches the boot.

Plat 2. The plat to receive a very light irrigation (about one-half normal) at the time of applying first irrigation, and then at the time of filling, about two-thirds of the normal.

In considering these plans it must be kept in mind that they are arranged particularly with reference to our unusually wet spring and contemplating practically the first irrigation as having been supplied by the rains during May and early June.

OUTLINE FOR LOCALITIES FOR OUTSIDE IRRIGATION WORK.

Duty of Water from Practice	{ Morgan Ogden Logan Spanish Fork
Potatoes	{ Morgan Salina State Industrial School
Fruit	{ Weber County Poor Farm Ogden Canyon Farms
Tomatoes	{ Weber County Poor Farm Wasatch Orchard Company
Lucern	{ School for the Deaf and Dumb Weber County Poor Farm State Industrial School Morgan Wasatch Orchard Company
Grain	{ Morgan Wasatch Orchard Company
Beets	{ Ogden Sugar Company State Industrial School Utah Sugar Company at Garland
Peas	Roy

The above gives the localities of the experimental work including both general duty of water studies and experiments in results of applying different amounts of water in different ways.

The detail of the matter outlined in this program will issue as a publication of the Agricultural College Experiment Station and will be available in published form in ample time for the use which the State Engineer expects to make of it.

## REASONS FOR CHANGE OF PROGRAM FOR WEBER RIVER WORK.

While it is certain that a modification of program such as has been outlined in the preceding pages, in the midst of a campaign will result in more or less loss of effort and loss of material. It is nevertheless justifiable if the occasion demands the change.

The Legislature of 1905 appropriated for the State Engineer's office for all purposes a fund of \$26,200. In forecasting the expenses of the biennium ending in 1906, it was expected that the expenses of the division of the State Engineer's office that had to do with the appropriation of water, would be very materially increased.

The following figures bear out that forecast; number of applications up to the end of 1904, 242 (see 1904 Report), number of applications made during 1905 and 1906, 912. This probability, which has been borne out by the facts, made it practically certain that the amount of money that might be apportioned to the Weber work, compared with the years 1903-1904, must be materially reduced since the functions of the State Engineer's office as a "public office," would need to be maintained whether surveys of the Weber were continued or not.

Before the field season of 1905 opened, representatives of the large canal companies in the vicinity of Ogden, urged the necessity of expedition through personal representatives sent to interview the State Engineer.

Casting up the probable expense of assembling the data necessary to adjudication on the lines marked out in the original program, using as a basis of calculation the prices that had obtained during the seasons of 1903 and 1904, it became clear that if the urgent request of the Weber irrigators were to be regarded, that cheaper and more expeditious methods must be adopted.

For these reasons, the original plans were modified as indicated above. No change was made, however, that did not seem, after full examination to be warranted by the necessities of the case.

The advisability of an early trial of the adjudication feature of the law—the settlement at the earliest practicable date of a situation that was rapidly becoming intolerable—allaying as far as practicable, the criticism of the people of the state

who were generally growing restless at the length of time that was being consumed in bringing the Weber matter to an issue, these are the main grounds for the changes of methods that have been made. In conclusion it seems desirable to say that, excepting the soil survey in the original program, the standard of exactness has not suffered in the least measure by the change of plan.

Expenditure from the funds provided for the maintenance of the State Engineer's Office from March 1, 1905, to Nov. 30, 1906.

General Office service (office engineer, stenographer, copyist, continuous service; general assistant and draughtsman at intervals .....	\$ 5,489.76
General Office expenses (printing, supplies, etc.).....	1,452.31
Office rent .....	988.72
Hydrographic survey Weber River—service (hire of Engineers, rodmen, draughtsmen) .....	8,741.83
Hydrographic survey Weber River—Expenses (maintenance of field men, purchase of property and supplies for field use)..	5,457.00
State Engineer's Traveling expense .....	545.40
State Engineer's contingent .....	450.83
For work on Spanish Fork River .....	505.20
For work on Beaver River .....	362.30
For work on Sevier River .....	646.55
Total .....	\$24,640.00
Leaving an unexpended balance of .....	1,660.00

Funds required for General Maintenance of the State Engineer's office during the coming biennium and for finishing the Weber River work—estimated from November 30, 1906:

Office rent .....	\$ 1,440.00
Engineer's Contingent .....	1,200.00
General Office Service (office engineer, stenographer, &c.) .....	7,000.00
General Office expenses (supplies, &c.) .....	1,500.00
For distributing water of Spanish Fork River .....	600.00
For co-operation with the National Government .....	600.00
For completing the map work of the Weber River system .....	2,500.00
For completing the hydrographic and diversion records of the Weber River .....	800.00
For tabulating the matter required by Section 13, 1905 law .....	1,500.00
	\$17,140.00

## THE RECLAMATION SERVICE IN THE WEBER RIVER VALLEY.

If such be true, it is a matter of regret that after more than fifty years of settlement any irrigation resource of the state should remain aboriginal and undeveloped; it is beyond regret, it is lamentable, if communities that have partially utilized an irrigation resource, stand stiff necked against a full utilization of that resource, if it can be had without risk or prejudice to their present interests, if the new regime of maximum benefit would mean simply a consolidation of ditch interests, individual and corporate, into one large, efficient organization. Such consolidation is not an utopian expectation, such concentration of ditch companies, where they have been worked out in practice, have proved both meritorious and business like. Six years ago the State Engineer of Colorado, speaking on this theme, expressed himself as follows:

"The interests of all the water users under one drainage are almost as intimately connected as though they were under one canal. Why not consolidate them? It can be readily seen that if the land under a new drainage were to be reclaimed at one time by a system of canals and reservoirs, such a scheme could be carried out. If so, why not under an old one that is already partially developed? We are familiar with one case where a consolidation of four large ditches has been successfully consummated. At the time the consolidation was made, it was argued by many that disagreements would arise which would result in destruction. Such has not been the case. The physical condition of the system has been improved and better service given than before. If a consolidation of four canals can be successfully made, why not thirty or forty? Such consolidation would result in an enormous saving of expense in maintenance and a very considerable saving of expense in superintendence. It would also result in a great economy in the use of water."

Speaking with circumspection but with emphasis, it is time for the Weber River people to wake up to the advantages that the presence of the Reclamation Service on that stream would confirm to them, to the counties on the stream and to the state at large.

There was wasted into Great Salt Lake in the year 1904, from the Weber river, water sufficient to cover 762,000 acres

of land one foot deep; in 1905, which was a dry year, enough to cover 297,500 acres of land one foot deep; in 1906, a quantity that would cover 620,500 acres of land one foot deep.

During the early months of 1905, the reclamation service had made a reconnaissance of the Weber River, looking to the possibility of storage on that stream and had made some preliminary advances to the public interested in the development of the area naturally tributary to the Weber.

The reconnaissance produced results that seemed to make mature examination worth while and the Reclamation Service in the early part of that year, expressed a willingness to extend its forces into that area. The government clearly required a supporting public sentiment, the promise from the people that their diverse water rights would be consolidated into one organization whenever the government should make that requirement. A sentiment that this could be accomplished would have begun the work, a work which would have been carried forward progressively as that sentiment was crystallized into fact.

While the engineering features on the Weber River were inviting, the public sentiment seemed to be far from favorable, since the preliminary discussion between the representatives of the people and a board of government engineers resulted in such divergent and irreconcilable views, particularly about the feature of a unit water users' organization, that practically at once engineering investigations on the Weber River were stopped.

Though this unpropitious outcome of the meeting between the representatives of the people and the board of engineers, upset the expectation of any immediate results, yet the case was not deemed to be hopeless. It still seemed worth while to make a further attempt to bring the people and the government together. Looking to that end, the State Engineer visited canal presidents, large owners in Weber land and water, influential citizens, etc., asking for the support of the people in attempting to recall the government from its resolution to leave off further work on the Weber.

The following letter was carried on many of the voyages made to Ogden and vicinity:

Salt Lake City, Utah, May 9, 1905.

*Mr. F. H. Newell,  
Chief Engineer, U. S. Reclamation Service,  
Washington, D. C.*

DEAR SIR:—We, the representatives of the land owners and water users tributary to the Weber River, respectfully submit:

1st. That from the Weber River watershed every year great quantities of water run to waste.

2nd. That there are to our best information and belief, storage reservoir sites in the drainage basin of the Weber, of such capacity and geographical position, that practically the whole discharge of the Weber River could be commanded and put to beneficial use.

3rd. That there are areas of land of high agricultural value contiguous to the Weber River, and within easy reach of the Weber waters, ample in extent to beneficially utilize its entire discharge.

4th. That the full development of the Weber as an irrigation resource is advisable and desirable, and that it is of such magnitude that private enterprise cannot handle it.

We request the Reclamation Service to look into the extent of the irrigated and irrigable lands tributary to the Weber, to make examination of the storage possibilities on its watershed and to ascertain the probable cost of supplying water to the lands of Weber, Davis and Utah counties.

As a proper justification for requesting this undertaking, we call attention to our pledge heretofore made to the Chief Engineer of the Reclamation Service, dating from November 1st to December 30, 1904, and further whenever the Chief Engineer shall require, *we agree to use our best endeavors to form an association embracing all the irrigators who take water from the Weber River; that every member of this association shall pledge his entire irrigable area, and shall surrender to the association all his water right from the natural flow of the Weber River, augmented by the stored waters from such reservoirs as the Reclamation Service may construct.*

It is understood, however, that where a member pledges his land, it will be security only for his individual liability to the government.

Very respectfully,

The part of the letter in italics contains the whole substance of the disagreement between the representatives of the irrigators and the board of engineers.

This letter was sent to many places and carried to some others—the sum total of the effect, however, was not of sufficient magnitude or intensity upon which to base any representatives to the government officers; and in such condition the matter rests at the present time.

It is to be hoped that better counsels may prevail, that the same second thought of the people, supported by the active interest and encouragement of the officers and influential citizens of the state, will bring a better light to the questions involved, a fairer appreciation of the intentions of the government, and a resolve that at the least an earnest effort shall be made to secure the highest utilization of the Weber River within the bounds of reasonable cost and physical limitation.

We cannot afford to look upon the abandonment of the Weber River by the Reclamation Service as more than temporary. It does not seem probable that the sentiment of the property interests there will continue indefinitely to antagonize the introduction of the Reclamation Service into that field. It is to be hoped they will not.

The Weber River is the greatest stream wholly within the commonwealth. Its proper control means more to the state than any other irrigation project whatever. It is probable that as far as value and immediate returns are concerned, it can make new irrigated lands and irrigate completely present partially irrigated lands cheaper than any other source of magnitude in the state. It is useless to enter upon a description of the lands tributary to that stream as compared to other lands in other sections. It is common knowledge that with a controlled Weber it constitutes the best tract in Utah.

No argument needs to be made that individual or corporate enterprise cannot unite the people as well, build a control of the whole Weber as cheaply to the farmer and administer the work with as circumspect attention to the present interests as the United States. This is not meant to discourage private or corporate enterprise. They should be encouraged to the utmost. After they have done to the full probability of any individual or corporation that has thus far been on the stream and have expressed a program with reference to it, there is still ample room for the activity of the government.

## APPLICATIONS FOR WATER IN THE DUCHESNE RIVER BASIN.

Out of a total of 912 applications to appropriate water, which have been received during the two years just closing, 450 have come from the section that was formerly the Uintah Indian Reservation.

Some of these filings were made before the reservation was opened, of these application No. 79 of our records was made January 27, 1904, by F. C. Kelsey in behalf of a citizens' organization in the southern part of Utah County.

The application was rejected by the State Engineer February 24, 1904. The following reason for the action being assigned:

"The water sought to be appropriated, the several places of diversion and the location of the proposed works are all within the boundaries of the Uintah Indian Reservation, and therefore not entirely within the jurisdiction of the State of Utah."

In the spring of 1904, the applicant appealed from this decision to the Fourth Judicial District Court. The decree in the case is given herewith:

IN THE FOURTH DISTRICT COURT, IN AND FOR WASATCH COUNTY, STATE OF UTAH.

In the matter of the application of  
FRANK C. KELSEY *against*  
A. F. DOREMUS, State Engineer.

### AMENDED JUDGMENT.

This cause having heretofore come on regularly for hearing before the Court sitting without a jury, Messrs. Sutherland, Van Cott & Allison appearing for petitioner, and A. C. Hatch, District Attorney for the Fourth Judicial District, appearing for counsel for respondent, and the Court having heard the evidence and the arguments of counsel and duly considered the same, now finds:

## FINDINGS OF FACT.

That all the allegations of the said petition on appeal are true.

And as conclusions of law from the foregoing findings of fact the Court finds:

## CONCLUSIONS OF LAW.

That the petitioner is entitled to the relief demanded by him upon this appeal, and it is therefore ordered and adjudged that the decision of said respondent, A. F. Doremus, State Engineer, be and the same is hereby reversed, and the matter is hereby remanded to the said State Engineer with directions to set aside his action disapproving the application of the said petitioner, Frank C. Kelsey, to appropriate the water as set forth in the said petition, and allow said petitioner to proceed with the same to the end that the same may be approved.

It is further ordered and adjudged that the said petitioner, Frank C. Kelsey, have and recover of the said respondent,

A. F. Doremus, State Engineer, his costs in and about this action expended, taxed at the sum of \$10.50.

(Signed) J. E. Boorn,

Judge of the Fourth Judicial District Court.

Dated October 31, 1904.

The application reinstated November 26, 1904, went through the formalities required by law and was approved January 23, 1906.

There has been considerable popular opposition to the ruling in the case outlined above, and dubiety as to its soundness has been expressed by some of the lawyers of the state, however, while the decision stands the duty of the State Engineer is plain.

Two other judicial decisions deserve notice. The first case involved that part of the 1903 law, which authorized the State Engineer to reject an application if it "threatens to prove detrimental to the public interest," and was decided adversely to the state. The text of the decision is submitted in full:

IN THE DISTRICT COURT, SEVENTH JUDICIAL DISTRICT, STATE OF UTAH, COUNTY OF EMERY.

In re application of L. B. Dewey, to the State Engineer of the State of Utah for the appropriation of certain waters of Green River, Utah.

## JUDGMENT.

This came on regularly for hearing on the 9th day of September, 1904, being by the consent of all parties thereto, and the Judge of said Court, heard at Salt Lake City, Utah.

The appellant, L. B. Dewey, appearing in person, and by his attorneys, Higgins & Senior, and the appellee, A. F. Doremus, as the State Engineer of the State of Utah, appearing in person and by his attorney, M. A. Breedon, Attorney General of the State of Utah. And thereupon evidence was introduced on behalf of the appellant and appellee, and the evidence being closed the cause was submitted to the Court for consideration and decision.

And after due deliberation thereon, the Court files its findings of facts and conclusions of law and orders that judgment be entered herein in favor of the appellant, L. B. Dewey, in accordance therewith.

Therefore by reason of law and the findings aforesaid, it is judged and decreed that the application of L. B. Dewey, mentioned in finding 1, of its finding of fact above mentioned for 1700 second-feet of the waters of Green River be and the same is hereby accepted and allowed. That the said A. F. Doremus, State Engineer of the State of Utah now proceed with such application in due course and in the same manner and to the same extent as if such application had by him been accepted in the first instance. That the appellant, Dewey, recover his costs therein.

And it is so ordered.

(Signed) JACOB JOHNSON, Judge.  
Dated at Salt Lake City, Utah, Sept. 9, 1904.

The second action was brought to settle that feature of the 1903 statute which provided for a "hearing." This case was also lost by the state. The decree is given herewith:

IN THE THIRD JUDICIAL DISTRICT COURT OF THE STATE OF UTAH, IN AND FOR SALT LAKE COUNTY.

North Point Consolidated Irrigation Company, Plaintiff, vs.  
A. F. Doremus, State Engineer, Defendant.

JUDGMENT AND DECREE.

Wherefore, it is ordered, adjudged and decreed that the State Engineer of the State of Utah be and he is hereby absolutely restrained from any further proceedings in attempting to determine the rights to the waters of said creek between said North Point Consolidated Irrigation Company and said John A. Jones, under and by virtue of the proceedings set out in the papers and files in this action; and it is further ordered, that the said plaintiff do have and recover of said A. F. Doremus his costs, taxed at \$14.00, for which amount judgment is herein entered against said A. F. Doremus, State Engineer, in favor of said plaintiff.

Done in open court this 24th day of April, 1905.

(Seal) MORRIS L. RITCHIE, Judge.

Attest: J. U. ELDREDGE, JR., Clerk,

By C. S. BUCKWALTER, Deputy.

Endorsed: No. 6769. Filed April 24, 1905. J. U. Eldredge, Jr., Clerk  
District Court of Salt Lake County, Utah, by C. S. Buckwalter, Deputy Clerk.

As a result of these two decisions the legislature of 1905 eliminated the "hearing" provision, and modified the section containing causes for rejection so that in the 1905 law it reads:

"Where there is no unappropriated water in the proposed source of supply, or where the proposed use will conflict with prior applications or with existing rights, it shall be the duty of the State Engineer to reject such applications."

Preceding the opening of the Uintah Indian Reservation, August 28, 1905, excluding the Indian filings made by Indian Agent, C. G. Hall, there were received in the State Engineer's office 10 applications asking for 3,000 second-feet of water to irrigate 265,400 acres of land—the points of diversion of the water and the land to be irrigated being within the reservation. Following the judgment of the court to which reference has heretofore been made, these applications were received and advanced through the formalities which the law provides without objection or hindrance from the State Engineer up to the point of publication. No homesteader in the Duchesne Basin could know anything about the location of his land until the day that the reservation was opened to settlement, August 28, 1903, and many citizens with bona fide intention of becoming homesteaders on that tract could not know where their land would be until at least some little time after the sixty day period had elapsed—hundreds of these actual owners of the soil as soon as their locations were made, filed with the State Engineer, applications for water to irrigate their homesteads.

In very many cases, as might have been expected from the number and extent of the large filings made prior to the opening, the homesteaders described land that had already been specified in those earlier large applications; so that this question confronted the State Engineer—under the law, could two applications be granted to irrigate the same land, or must the subsequent application be denied. The law was clear in the statement that an application shall be rejected "if the proposed use conflicts with prior applications." Now if the proposed use were irrigation the "use" feature is to occur upon definite land. It would seem impossible to get away from the idea that the "use" is the irrigation of the land designated and to permit another application for water to designate this same tract would inevitably constitute a conflict. Further that this was clearly intended to be the intention of the clause (see State Engineer's Report 1903-4, page 65, paragraph 3, last four lines) :

"The rule under the present law is similar to that governing the entry of public lands, where during the time one filing is in force, others for the same land are not allowed, thus assuring order and avoiding conflict."

Whatever shall hereafter be determined by the courts as the proper interpretation of this clause of the statute, it has

uniformly been the practice of the State Engineer, under the conditions cited above, to reject the second application, unless there was attached to the application an explanation recognizing the first application placing the second application in a supplementary relation thereto, describing how in actual operation the second application would not interfere with the use described in the prior application—in fact limiting the second to such times as the prior application was not adequate to the necessities of the land and to such quantities only as to make up that inadequacy.

In a situation as that attendant upon the opening of the reservation, joined with the state law as it seems to read, and as it had been interpreted, there was the certainty that many land owners, whose lands were in the applications made before the "opening," would be practically coerced by the state into compounding with the owners of those early filings for a water right, i. e., unless the law would support this construction: for the state to refuse to permit the owner of land the right to irrigate it, if there were unappropriated water available, was an interference with his rights.

In order to keep within the law, construed to require the rejection of all subsequent applications infringing upon an area covered by a preceding application, and at the same time to give the land owner a square deal, the following agreement was required of all applicants who made application for large quantities of water to irrigate extended areas of land:

Vernal, Uintah County, Utah.

*Mr. Caleb Tanner, State Engineer, Salt Lake City, Utah.*

DEAR SIR:—In the matter of our filings Nos. — — — — —, we respectfully represent that we are aware that there are a number of individual land owners within the area covered by the aforesaid filings, who have made application for water rights for the lands in their individual ownership.

We pledge ourselves and hereby agree to amend our filings, so as to exclude individual lands for which water rights have been asked up to the time the State Engineer shall signify his intention of approving and recording our several applications numbered above.

Further: We hereby authorize the State Engineer, when the time shall come to consider our applications hereinbefore

mentioned, for approval, to amend each of such applications so as to exclude all lands whose owners have signified their intention of perfecting application therefor themselves.

Very respectfully,

Many of the owners of the large applications conceded the justice of the requirement and readily consented to sign the agreement. Some few, viz.: Messrs. N. G. Sowards and J. L. Gibson, the first of Vernal, Utah, the second of Salt Lake City, Utah, refused to sign this agreement for their application No. 458, which asks for three hundred (300) second-feet of water to cover 33,680 acres of land; Mr. E. T. Studness refused to sign for his application No. 447, involving eleven hundred seventy-five (1175) second feet of water to cover 78,520 acres of land.

Each of these applications were rejected before publication as that was the only point in the history of an application where the state could be brought to the defense of what seemed to be the only fair solution of the problem.

The following is the endorsement on each of the applications mentioned:

"Reasons for rejecting application. Certain areas covered by this application are in private ownership. Several land owners within the tract that this applicant seeks to irrigate have made applications for water to irrigate their lands. The applications of these land owners are subsequent to this application. This applicant, March 3, 1906, refused to withdraw from the areas in private ownership that are covered by applications of their owners and for this reason the State Engineer rejects this application.

"To grant this application would necessitate the rejection of all applications made by actual owners of the land within the area of this application (see Laws of Utah, 1905, chapter 108, Section 39). Such action would compel the land owner, even if there were an abundance of water over and above the quantity asked for by this applicant, to irrigate his land by the use of this applicant's water or not at all. Such an issue is held to be an interference with the rights of the land owner."

Of the rejected applications that of E. T. Studness has been appealed to the courts, but in such a way as not to involve the state directly.

In the case of the Sowards and Gibson application, a writ of mandate has issued from the Third Judicial District Court, citing the State Engineer to show cause why his rejection given above should not be overruled.

### RESERVOIRS.

Previous to 1905, the Reservoir Land Grant Fund could be used by its custodian, the State Board of Land Commissioners, only for the construction of reservoirs for the irrigation of state lands. In 1905, the State Legislature took away that restriction and provided that lands other than state lands might be irrigated from reservoirs built by the state. While thus extending the use of this fund, no provision was made that it could be used in any other manner than had heretofore obtained, viz: the reservoir and related structures to bring the water to the land sought to be reclaimed, must be built by the State Land Board. This latter provision of the law, in the opinion of many practical irrigators, detracts very materially from the usefulness of the fund. They point out, that though the fund has been in existence for something like five years, no practical results have as yet come from it; that the modification made in the law governing the use of the fund by the legislature of 1905, has not resulted in any material accomplishment by the state officers—they hold that the state is making very little headway in getting this money where it was intended to be used, i. e. into irrigation structures.

It has been suggested that if the law were changed so that the State Land Board could loan the money to irrigation associations, under sound restrictions and with proper security, in fact that if the terms of such loans were made as exacting as those now being made by the Land Board to citizens of the state on real estate security, that there would be a change for the better in the utilization of this fund, that it would be rapidly absorbed in building up what it was created for—the irrigation interests of the commonwealth.

By these means it is held that the fund, instead of representing reservoirs in anticipation, would rapidly become reservoirs in fact.

The State Board of Land Commissioners has, during the year 1906, made several trips of inspection to parts of the state, where the people have represented that they had reservoir pos-

sibilities that the state should investigate. In these journeys, the Board has always been accompanied by the State Engineer.

The first of these trips of inspection was made to the vicinity of Hatchtown in Garfield County. The Board was so favorably impressed by the situation there, that they ordered a full investigation of the storage possibilities and the irrigable lands to be made by the State Engineer. In the month of July of the present year, a field party was sent to Garfield County, full data was obtained with reference to the storage basin, the dam site, the canal line and the irrigable lands. So far as the physical conditions are concerned, it seems to be unquestionable that the project can be built within the limit of the selling price of irrigated land in that vicinity. (Certain maps of this project can be found in the appendix).

The field data is now in the hands of the Consulting Engineer, who is designing the structures and drawing the specifications for the work, so that the Land Board will be in a position to advertise for bids as soon as the other preliminaries are arranged.

The second of these trips was made to Woodruff in Rich County. The water supply that was to be used to fill the reservoir is in controversy so that the state has made no further investigation here.

From a cursory inspection of the project, which involves an earth dam one hundred feet high, it is doubtful if the price of irrigated land in that section would, with the ordinary method of construction, support the cost of a dam of such magnitude. If it should develop, however that a hydraulicing plant could be cheaply constructed so that the earth could be moved into the dam for five or six cents a yard, the project might probably prove feasible.

The third of these trips was made to Vernal, Uintah County, in the early part of November, 1906. Material necessary to make any forecast of the probabilities there not being to hand at this writing, nothing further can be reported on this project; except, that from records of the United States Geological Survey, which gives the discharge of Ashley Creek for a number of years, the water supply is ample. (See hydrographic record in this Report). As soon as some delayed information is received from Vernal, it will be possible, in an approximate way, to figure cost and quantities with sufficient closeness to determine if the project can be profitably undertaken.

## STREAM MEASUREMENTS.

It is no more than just to say here that great credit is due the government Hydrographic Service, its officers and engineers, for the important service they have rendered the commonwealth in gathering the extensive array of hydrographic statistics which collected from various publications of the United States Geological Survey, form the most valuable part of this report.

The State Engineer's Office is under particular obligation to Geo. L. Swendsen, in charge of the government hydrographic work in Utah, for the establishment of three new gaging stations in the Weber River Basin, the information from these stations will be of great value to the state in the Weber River adjudication. In the maintenance of these three new stations and the station established by the state at the Plain City bridge, the State Engineer has given some assistance, mainly by way of paying part, probably half, of the compensation of the gage observers. The Hydrographers, who have made the gagings and prepared the data for publication, have been paid wholly by the government.

## DUCESNE AREA.

From the time that Mr. C. C. Babb was detailed by the Secretary of the Interior to make an investigation of the water supply and irrigable lands of the Uinta Indian Reservation in the year 1899 up to the time the Reservation was thrown open for settlement in 1905, the government had kept a continuous record of the flow of the principal streams in that section. This record may be seen in another part of this report.

Since 1905, the engineers of the Indian Bureau, under the direction of Chief Engineer Code, have continued this work.

In the summer of the present year, Mr. Code represented to the State Engineer, that while the engineers of the Indian service could make the gagings, etc., the limitations placed upon their appropriation would not permit of their hiring gage observers.

Gage observers are essential if the maintenance of these stations are to have satisfactory and continuous results. Upon this matter the State Engineer sent a communication to the

Secretary of the Interior on August 18, 1906, bearing the endorsement of Chief Engineer Code.

The following quotation representing the proposals of this office on that important matter:

"If the engineers of the Indian Service will make the necessary gagings of the streams in question, the state will cooperate to the extent of paying the observers who make the daily gage readings, all data to be submitted to the Hydrographic Division of the Geological Survey, in order that the records may be published in the future as they have been in the past."

Knowledge of stream flow in the Duchesne Basin is now very important to the state, and as time goes on, the country builds up, the streams are utilized for irrigation, that knowledge will grow more and more important, so that the State Engineer, as indicated above, readily assented to the suggestion of Mr. Code. The outlay of money is inconsiderable, not more than five dollars per month for each station, while the returns from the outlay will have the highest value.

#### LOGAN RIVER.

Rights to the water of Logan River, in Cache County, have never as yet been adjudicated. The system is operated under a more or less elastic understanding known as the "Barber and Swendsen Report." Mutual forbearance in the hope of final settlement in the near future, constitute the main reason for making the system operative at all and kept the people there from vexatious litigation.

During the summer of 1905, the river went down to a very low stage. The people having water rights from that stream, fell into disagreement over its distribution; delegations from the various canal interests waited on the State Engineer, representing that it was of the highest importance to those interested in the Logan River, to have the state take up that situation and bring it, as early as practicable, to a conclusion; that they were willing to adopt any suggestion of the state that would advance the work so that no delay chargeable to their lack of interest or want of helpfulness would intervene to delay the adjudication of the water rights on that stream. While

the State Engineer could make no definite promises, since any extension of the work of the office was in the hands of the legislature, it was held out that if the legislature so directed, the Logan River situation would be taken up in 1907—that, however, the Weber River was still in hand and must be disposed of first. It was suggested that material help toward the desired adjudication could be contributed by the canal companies, if they would install proper measuring devices so that the gathering of exact hydrographic data might be begun as early as possible.

This suggestion was taken practically without debate and put into execution without delay, so that at the present writing the best set of distribution works, that we have in the state, are on the Logan River. Great credit is due the people there for their energy and willingness in this business; it constitutes one of the few really bright places in the history of the relation of this office with the irrigators of the state. There is shown in this report elsewhere, the detail of one of the weir structures, and photographs of one or two others.

#### HYDROLOGY.

During the two years just ended, the state has been fortunate in being able to enter into an agreement with the Division of Hydrology of the United States Geological Survey, whereby a very desirable fund of information about stream flow and subterranean water supply (ground water—and artesian water) has been obtained in the upper valley of the Sevier River from Fayette to Marysville; and in the valley of the Beaver River.

The work in the Sevier Valley was done during the season of 1905, under the direction of Mr. G. B. Richardson of the Geological Survey. The counties covered by the investigation, and the State Engineer's office contributing equal shares toward paying the salary and maintenance of Mr. Richardson's field assistants. The bulletin containing this information, when it becomes available for distribution may be had on application to the County Commissioners of Sanpete and Sevier Counties, the State Engineer's Office, or the Director of the United States Geological Survey.

The work in the valley of the Beaver River was done during the season of 1906. Mr. W. T. Lee, assistant geologist, having charge of the work.

This work was the result of an agreement between the Geological Survey, the State Board of Land Commissioners, the county commissioners of Beaver County and the State Engineer's office. There is given herewith a copy of the agreement between the Geological Survey and the County Commissioners of Beaver county, which is representative.

This agreement, made this first day of July, 1906, between H. C. Riser, Acting Director, United States Geological Survey, Party of the First Part, and the County Commissioners of Beaver County, Utah, Party of the Second Part.

Witnesseth: That the Party of the First Part agrees to allot the sum of eighteen hundred dollars for an investigation of the ground water resources of Beaver County, Utah, said sum to be expended for the salary of a properly qualified appointee of said party and all moneys remaining in excess of said salary shall be expended for field work necessary in the carrying on of said investigation;

The Party of the Second Part shall appropriate the sum of two hundred dollars toward said survey, the moneys to be paid for necessary field expenses of the appointee of the Party of the First Part or his assistants, said payments to be made by the Party of the Second Part in a manner to comply with all statutes and regulations in such cases provided upon representation of vouchers approved by the Party of the First Part;

That, in consideration of said appropriation by the Party of the Second Part, the Party of the First Part agrees to furnish two hundred copies of the report of said investigation to such students of Beaver County in the State of Utah as the Party of the Second Part shall designate within two years after the time at which such report becomes available.

In testimony whereof, we have hereunto set our hands the date and year first herein written.

(Signed.) H. C. RISER,  
Acting Director, United States Geological Survey, for and on behalf of the Party of the First Part.

(Signed.) JOHN M. MURDOCK,  
AUGUST BUCHANAN,  
WILLIAM ROBERTS,

County Commissioners Beaver County, Utah, for and on behalf of the Party of the Second Part.  
I, Samuel O. White, Jr., County Clerk of Beaver County,

do hereby certify that the foregoing contract was signed by the Commissioners in pursuance of a resolution of said Board duly passed the 30th day of January, 1906.

(Signed)

SAMUEL O. WHITE, JR.,

Clerk of Beaver County.

When the volume dealing with the Beaver River becomes available it may be had on application to the County Commissioners of Beaver County, the State Land Board, the State Engineer; or the Director of the United States Geological Survey.

The scope of this work, apart from the perusal of the bulletins themselves, can best be brought out by quoting the directions for field work given by Mr. Richardson as a guide to his field assistants:

"Directions for Field Work in Studying Underground Waters:

"The object of the work is twofold. First to get all possible information concerning underground water in the area studied and second, to correlate the data obtained so as to be able to outline the distribution, to estimate the quantity, and to suggest means of recovering the greatest possible amount of the underground supply.

The method of procedure will be to visit those interested in the water supply, town and county officials, prominent citizens, well drivers, etc., and obtain such information as they can give, and then to visit personally the wells and springs and obtain from the owners and by measurement the data which is to be tabulated. Get all possible facts concerning the typical and more important wells and springs. It is desired to have the information as complete as possible, but where the wells are numerous, on account of lack of time, it may not be possible to obtain detailed information concerning each one. Discretion must therefore be exercised, care being taken to collect full data from all parts of the field and especially in areas where the water supply is limited. Get too much rather than too little information.

This information will be assembled on maps and in note books. Procure the best available map of each locality and have it mounted on cloth. On the map locate the wells and springs in ink by numbered symbols. Outline artesian areas by drawing a line separating localities in which flowing and

non-flowing wells occur or can be obtained; outline areas in which ground water occurs at the following depths: 0-10 feet, 10-50 feet and 50 plus. The information on which to draw these lines is obtained from the well data. Outline the boundary between unconsolidated debris in the valleys and the bordering bed rock of the highlands. Also locate important irrigation canals on the map. All of this information can be put on one map by the use of different colored inks.

In the note books record the data as indicated by the headings, arranging the information in tabular form. Besides the tabulated facts, prepare a general statement of the conditions and prospects for each locality before moving to the next town. These written summaries should be put in a separate note book. The object of the summary is to "digest" the data obtained while it is fresh in the mind, and to record the chief facts bearing on the underground water supply in an orderly manner. Write an account of each town or district, describing the local topography, geology, hydrography and irrigation bearing on the source and distribution of the underground water, its amount, variation, quality and method of recovery. Make an estimate for each locality of the total number of wells, how many are flowing and how many are non-flowing, and of the total amount of water used. Also take pains to point out how existing conditions can be improved.

The following may be noted concerning the different headings in the note book:

*Number:* Let the number in the note book correspond with the number of the well or spring on the map, put the number on the map and the facts in the note book at the time the information is obtained. Trust nothing to memory.

*Name:* To economize space use only initials and surname, attempt to obtain the proper spelling.

*Date:* when the well was put down.

*Location:* Locate township, range, section and quarter section in the note book besides indicating the position of the well and spring on the map.

*Diameter:* Always measure diameter.

*Depth:* The total depth of well.

*Height of Water:* Height of water is important. If the well flows the record will be plus, but besides this try to find how high above the surface water will rise in a pipe and

verify by measuring the pressure. If well does not flow find out by actual measurement with plumb line, how far the water surface is below the ground at the time of visit and inquire how much and when it varies.

*Yield:* If flowing, measure from table, but if the flow is small with bucket and watch. If not flowing determine what quantity is pumped.

*Pressure:* Determine by gauge.

*Temperature:* Use thermometer.

*Use:* State whether the water is used for domestic purposes, stock or irrigation and if the latter how many acres are irrigated.

*Quality:* Good, fair, poor, hard, soft, alkaline, sulphur, iron, etc.

*Depth:* Depth to water bearing beds is important. Take pains to determine at what depths water was obtained in sinking the well, and from what depth the present source is obtained. These figures generally will not correspond with the depth of the well.

*Water occurs in:* sand, gravel, clay, sand stone, lime stone, etc.

*Variations:* This is important. Note when variation occurs, whether the height of water increases or decreases regularly or irregularly, at what time the supply is greatest and least, how much, etc.

*Remarks:* Note here anything else of importance, obtain well records and copies of water analyses whenever they are available.

In collecting spring data use the same note book and record: Number, Name, Location, Yield—take care to measure the flow of every spring—Temperature, Quality, Variation—ascertain whether there is any variation in the flow, when, how much, etc.

*Water occurs in:* Note the nature of the material from which the spring issues and what the adjacent bed rock is.

As an incidental part of the work the discharge of every creek where it enters the main valley from the mountains should be measured at least once and where conditions are good occasional sets of measurements should be made to determine the loss by seepage in certain stretches of the course of a creek or canal—the idea being to get facts on the amount by which the underground supply is replenished by seepage from surface streams.

## HIGHWAYS.

The state highway law enacted by the fifth session of the legislature, has never had any appropriation to carry it into effect, so that very little is to be reported in this division of the State Engineer's duties.

April 6, 1905, the County Commissioners of Morgan County submitted a set of maps in accordance with the requirements of chapter 125, Section 2, of the Session Laws of 1903.

The maps were submitted in expectation that the county would be able to go ahead with some extensive improvements which the commissioners had in mind. It was held by the county officers of Morgan County that if the approval of the State Engineer to the maps were secured and the matter were proceeded with in other respects as the "Highway Law" provides, that the state, even if the legislature had omitted an appropriation for this special purpose, would nevertheless be liable to one-half the cost of the highway. That the liability of the state for one-half the cost need not wait upon the action of the legislature, but could be "paid out of any funds, etc., not otherwise appropriated," as the law provides in section 4, chapter 125.

March 7, 1906, this business at the request of the Morgan County people was submitted to the Attorney General in the following communication:

*M. A. Breeden,  
Attorney General,  
Salt Lake City, Utah.*

DEAR SIR:—If one of the counties of the state should comply with the state highway law, Laws of Utah, 1903, chapter 125, advancing all the money necessary for the work, both in the matter of the State Engineer's expense and the actual construction of the roadway, under what condition could it recover the one-half for which the state is liable.

Or if a county of the state proceeded to take advantage of the state highway law, making the necessary appropriations to forward the undertaking to the stage where actual construction work was being done, what funds could the State Auditor draw upon in honoring the certificates "of the State Engineer as the same shall become due under the terms of the contract."

This matter has been urged on my notice with some persistence. I would very much like to have your opinion about it.

Very respectfully,

CALEB TANNER,  
State Engineer.

The reply of the Attorney General is herewith appended:

Salt Lake City, March 29, 1906.

*Hon. Caleb Tanner,  
State Engineer,  
Salt Lake City, Utah.*

DEAR SIR:—Referring to your communication of recent date relating to the construction of public highways, under chapter 125 the Session Laws of 1903, you are advised that there is no appropriation available to pay the state's portion for the construction of public highways under this section. In my opinion, so far as the state is concerned, the matter of building these highways will have to be postponed until the legislature makes some provision for the payment of the state's portion for work of this character.

I am very truly,

M. A. BREEDEN,

Attorney General.

### DAMS.

Plans and specifications of the following dams have been submitted to the State Engineer for approval during the years 1905-6.

(Those marked "A" have been approved.)

NAME OF DAM.	Kind of Material	Height in feet	Length on top in feet
Echo (A) . . . . .	Earth . . . . .	100	1,275
Range Creek Reservoir Dam . . . . .	Rock fill . . . . .	83	
Cleveland Reservoir Dam (A) . . . . .	Earth . . . . .	40	650
Boulder Creek . . . . .	Earth . . . . .	15	
Neponset Reservoir (A) . . . . .	Earth . . . . .	29	1,903
Dry Creek (A) . . . . .	Earth . . . . .	26	1,750
Curlew Irrigation Co. Dam . . . . .	Earth . . . . .	30	349
Ten Mile Wash (A) . . . . .	Earth . . . . .	20	1,585

## TABLES OF APPLICATIONS.

The following tables contain a complete list of the applications received since May 12, 1903, when the "new law" went into effect. The applications classified are limited to those which have been granted or which were in good standing November 30, 1906. Those applications granted are marked "G" after the application number.

The first of the following tables has the applications arranged for each drainage area in the order of their priority; the second table has the direct sources from which the appropriations are to be made arranged in alphabetical order.

These tables will be found useful in determining the relative rights of different applicants to water from the same sources of supply.

TABLE

**Applications to Appropriate Water**

Arranged for Each Drainage-area

**IN THE ORDER OF THEIR PRIORITY.**

## Applications to Appropriate Water from the Bear River Drainage-area.

Source of Supply.	Name of Applicant.	Postoffice Address of Applicant.	Water Ap- plied for in		Location of Point of Diversion.			Date of Priority.	
			Cu. feet per sec.	Acre ft. per sec.	Sec.	Tp.	Range.	County.	No.
Haw Dush Creek	Wm. Lindley	Wellsville, Utah	Irrigation -----	2 to 12	10	9 N.	1 E.	Cache	23 Nov. 1903
Little Bear River	Wellsville Canal & Co.	Wellsville, Utah	Irrigation -----	40				Cache	21 Feb. 1904
Logan River	Geo. C. Righty	Logan, Utah	Power -----	200				Cache	27 Mar. 1904
Rugby Springs	John E. Griffin et al.	Newton, Utah	Domestic -----	0.033				Cache	10 Mar. 1904
Dry Fork Spring	Issue Jorgensen	Hyde Park, Utah	Irrigation -----	0.75	5	12 N.	2 E.	Cache	18 May 1904
J. A. Peterson's Spring	Smythfield City	Smythfield, Utah	Domestic & Cul.	0.5	24	13 N.	1 E.	Cache	15 June 1904
Hugh Creek	James L. Shepard et al.	Logan, Utah	Power -----	15	4	14 N.	2 E.	Cache	17 April 1905
Bear River	Utah & Idaho Min. Co.	Ogden, Utah	Mining -----	1	11	8 N.	2 E.	Cache	15 June 1905
Glenwood Spring	W. H. Bradwell et al.	Wellsville, Utah	Stockwatering	0.05	28	10 N.	1 W.	Cache	24 June 1905
Owen H. Gray	Owen H. Gray	Salt Lake City, Utah	Power -----	200	3	10 N.	2 E.	Cache	18 July 1905
Blacksmith Fork	John Jenkins	Newton, Utah	Irrigation -----	0.1	9	13 N.	1 W.	Cache	1 Aug. 1905
Newton Creek	Smithfield City	Smithfield, Utah	Power -----	50	8	13 N.	2 E.	Cache	2 Aug. 1905
Summit Creek	Neposset Land & Livestock Co.	Evanson, Wyo.	Irrigation -----		\$701.56	30	16 N.	120 W.	Aug. 10 1905
Logan River	Geo. Q. Rich	Logan, Utah	Power -----	300	12	12 N.	3 E.	Cache	20 Oct. 1905
Quarrystrom Springs	Soren Hanson	Hyrum, Utah	Domestic -----	125	4	10 N.	1 E.	Cache	7 Nov. 1905
Blacksmith Fork River	Joseph Monson et al.	Logan, Utah	Power -----	125	14	10 N.	1 E.	Cache	5 Dec. 1905
Swan Creek	Geo. H. Robinson	Lake Town, Utah	Power -----	75	6	14 N.	5 E.	Rich	5 Jan. 1906
Spring	James MacNeil	Logan, Utah	Irrigation -----	25	26	12 N.	1 E.	Cache	10 Feb. 1906
Logan River	Eugene Schaub	Woodruff, Utah	Irrigation -----	2	34	12 N.	1 E.	Cache	13 Feb. 1906
Woodruff Creek	It. H. Cook	Hyrum, Utah	Irrigation -----	50	30,864	33	9 N.	6 E.	Feb. 15 1906
Anderson's Spring	Niels C. Nelson	Richmond, Utah	Irrigation -----	1	32	11 N.	1 E.	Cache	19 Feb. 1906
Spring	A. B. Allen	Cove, Utah	Domestic -----	166	38	14 N.	2 E.	Cache	5 Mar. 1906
Spring	Ann Preese	Logan, Utah	Culinary -----	166	12	14 N.	1 E.	Cache	11 Mar. 1906
Bear River	Fred W. Thackwell	Ogden, Utah	Mining -----	1	11	8 N.	2 E.	Cache	11 May 1906
Bear River	William Newbrough	Evanson, Wyo.	Irrigation -----	100,000	32	18 N.	120 W.	Utah, Wyo.	24 May 1906
Bear River	William Newbrough	Evanson, Wyo.	Irrigation -----	10,000	32	18 N.	120 W.	Rich	24 May 1906

**APPLICATIONS TO APPROPRIATE WATER FROM THE EAR RIVER DRAINAGE-AREA.—Continued.**

Source of Supply.	Name of Applicant.	Postoffice Address of Applicant.	Use of Water.	Location of Point of Diversion.				Date of Priority, Appli- cation			
				Water Ap- plied for in Cu. feet per sec.	Acre ft. per sec.	Tp. Sec.	County.	Mo.	Day	Year	No.
Bear River -----	William Newbrough -----	Evanston, Wyo -----	Irrigation -----	40,000	34	10 N.	7 E.	May	24	1906	912b
Bear River -----	William Newbrough -----	Evanston, Wyo -----	Irrigation -----	35,000	14	9 N.	7 E.	May	24	1906	912c
Mill Creek -----	James A. Hayorka -----	Knight, Wyo -----	Irrigation -----	2	34	3 N.	10 E.	June	9	1906	941
Blacksmith Fork River -----	Soren Hanson -----	Hyrum, Utah -----	Power -----	110	11	10 N.	2 E.	June	18	1906	951
Blacksmith Fork Creek A. M. Hill -----	A. M. Hill -----	Salt Lake City, Utah -----	Power -----	110	1	10 N.	2 E.	Sept.	13	1906	1051

## Applications to Appropriate Water from the Colorado River Drainage area.

Source of Supply.	Name of Applicant.	Postoffice Address of Applicant.	Use of Water.	Water for Appplied for in			Point of Diversion.			Date of Priority Application			
				Cu. feet per sec.	Acre ft.	Sec.	T.D.	Range.	County.	Mo.	Day.	Yr.	No.
Mud Hole Ravine -----	Thos. Spencer -----	Escalante, Utah -----	Stockwatering -----	0.003					Kane	Garfield	April	2	1901
Winter Spring -----	R. B. Liston & Sons-----	Escalante, Utah -----	Stockwatering -----	0.04									
Lower Willow Spring -----	R. D. Liston & Sons-----	Escalante, Utah -----	Stockwatering -----										
Lower Canon Spring -----	R. B. Liston & Sons-----	Escalante, Utah -----	Stockwatering -----										
Rock Spring -----	R. B. Liston & Sons-----	Escalante, Utah -----	Irrigation -----	3									
Boulder Creek -----	Walter Baker -----	Boulder, Utah -----	Irrigation -----	400	12,000	26	33 S.	4 E.	Garfield	Juan	July	21	1905
Muddy Creek -----	M. H. Whitney -----	Salt Lake City, Utah -----	Power -----	110		30	21 S.	6 E.	Emery	Emery	July	10	1905
Virgin River -----	Thomas Judd -----	La Virgin, Utah -----	Bluff, Utah -----				12 W.		Washington	Washington	July	13	1905
Arch Canyon Creek -----	George W. Perkins -----	Bluff, Utah -----	Irrigation -----	.75					San Juan	San Juan	Oct.	11	1905
Spring Cogole Canyon -----	Franklin J. Adams -----	Bluff, Utah -----	Stockwatering -----	.1					San Juan	San Juan	Oct.	17	1905
Spring Elk Mts. -----	Franklin J. Adams -----	Bluff, Utah -----	Stockwatering -----	.4					San Juan	San Juan	Oct.	19	1905
Rock Corral Spring -----	Robert P. Hort -----	Verdure, Utah -----	Stockwatering -----	.01					San Juan	San Juan	Nov.	1	1905
Horse Head Spring -----	George A. Adams -----	Monticello, Utah -----	Stockwatering -----	.01					San Juan	San Juan	Nov.	1	1905
Dodge Spring -----	Joseph F. Barron -----	Bluff, Utah -----	Stockwatering -----	.02		3	35 S.	23 E.	San Juan	San Juan	Nov.	3	1905
Boulder Spring -----	J. H. Wood -----	Monticello, Utah -----	Stockwatering -----	.001		30	31 S.	24 E.	San Juan	San Juan	Nov.	10	1905
East Spring -----	Franklin J. Adams -----	Bluff, Utah -----	Stockwatering -----	.003					San Juan	San Juan	Mar.	26	1906
East Spring -----	Franklin J. Adams -----	Bluff, Utah -----	Stockwatering -----	.003					San Juan	San Juan	Mar.	26	1906
Spring -----	James W. Inlay -----	New Harmony, Utah -----	Stockwatering -----	.04		16	39 S.	11 W.	Washington	Washington	April	10	1906
East Canyon Spring -----	Francis Nielson -----	Bluff, Utah -----	Stockwatering -----	.06		13	33 S.	24 E.	San Juan	San Juan	May	7	1906
Willow Spring -----	William Wood -----	Minersville, Utah -----	Stockwatering -----	.002		1	29 S.	15 W.	Beaver	Beaver	July	15	1906
Montezuma Creek -----	E. B. Hyde et al. -----	Monticello, Utah -----	Irrigation -----	10		18	34 S.	23 E.	San Juan	San Juan	July	22	1906
Montezuma Creek -----	E. B. Hyde et al. -----	Monticello, Utah -----	Stockwatering -----	2.5		35	33 S.	23 E.	San Juan	San Juan	Aug.	25	1906
Deep Creek -----	Utah & Eastern Cop. Co. -----	Salt Lake City, Utah -----	Miscellaneous -----	.02		40 S.	19 W.	Washington	Wayne	Oct.	1	1906	
Lavirkin Creek -----	Robert Peeler -----	Torrey, Utah -----	Irrigation -----	3.5					Washington	Washington	Oct.	15	1906
Sheep Spring -----	H. M. Wallace -----	Toquerville, Utah -----	Stockwatering -----	.01			40 S.	13 W.	Washington	Washington	Oct.	15	1906
Spring -----	John Jones -----	Toquerville, Utah -----	Stockwatering -----	.1			29 S.	13 W.	San Juan	San Juan	Oct.	15	1906
Iron Spring -----	F. P. Jones -----	Monticello, Utah -----	Stockwatering -----	.005		33 S.	25 E.	24 E.	San Juan	San Juan	Nov.	24	1906
		Monticello, Utah -----	Stockwatering -----	.05		33 S.							

## Applications to Appropriate Water from the Utah Lake-Jordan River Drainage-Area.

Source of Supply.	Name of Applicant.	Postoffice Address of Applicant.	Use of Water.	Water Applied for in				Location of Point of Diversion.				Date of Priority Application			
				Cu. feet per sec.	Acre ft. per sec.	Tp.	Range.	County.	Mo.	Day.	Yr.	No.			
Little Cottonwood	Columbus Con. Min. Co.	Salt Lake City, Utah	Power -----	12	3 S.	2 E.	Salt Lake	May	25	1903	654				
Mill Creek	F. M. Lyman, Jr.	Salt Lake City, Utah	Power -----	20	1	1 S.	1 W.	Salt Lake	July	14	1903	114			
Spring	Utah Ice & C. Stor. Co.	Salt Lake City, Utah	Miscellaneous -----	1.5	1	3 S.	3 W.	Salt Lake	Aug.	26	1903	224			
Bingham Creek	Stephen Hays et al.	Bingham Canyon, Utah	Miscellaneous -----	5	24	3 S.	3 W.	Salt Lake	Sept.	27	1903	414			
Bingham Creek	Geo. H. Robinson	Salt Lake City, Utah	Miscellaneous -----	5	24	3 S.	3 W.	Salt Lake	Sept.	21	1903	404			
Little Cottonwood	Continental Mines &	Salt Lake City, Utah	Miscellaneous -----	1											
Willow Creek	Swettling Co. -----	Salt Lake City, Utah	Power -----	20	24	3 S.	1 W.	Salt Lake	Oct.	15	1903	514			
Finnish Creek	Geo. C. Lambert Jr.	Salt Lake City, Utah	Power -----	2	24	3 S.	3 W.	Salt Lake	Nov.	11	1903	704			
Big Hollow Canal	Utah Copper Min. Co., Dry Creek Canal Reservoir & Irrigatin Co.	Salt Lake City, Utah	Smelting -----	4	24	3 S.	3 W.	Salt Lake	Jan.	4	1903	744			
Spring	Irving M. Higley	Springville, Utah	Irrigation -----	10	5	8 S.	3 E.	Utah	Jan.	30	1904	774			
Spring	Bingham Creek	Salt Lake City, Utah	Miscellaneous -----	0.8	29	1 S.	1 E.	Salt Lake	Jan.	22	1904	784			
Spring Creek	John C. Dugan	Bingham, Utah	Mining -----	1	26	3 S.	3 W.	Salt Lake	Feb.	8	1904	874			
Provo River	John A. Jones	Murray, Utah	Irrigation -----	1	7	2 S.	1 E.	Salt Lake	Mar.	17	1904	934			
Salt Creek	C. F. Decker	Provo, Utah	Power -----	100	19	6 S.	3 E.	Salt Lake	Mar.	14	1904	1016			
Spanish Fork River	Nephi Irrigation Co.	Nephi, Utah	Irrigation -----	11	5	12 S.	2 E.	Utah	April	21	1904	1196			
Little Cottonwood	Geo. O. Noble	Salt Lake City, Utah	Power -----	100	28	9 S.	4 E.	Utah	July	19	1904	1346			
Little Cottonwood	James J. Chambers	Salt Lake City, Utah	Power -----	25	10	3 S.	2 E.	Salt Lake	July	22	1904	1584			
Big Cottonwood	Continental Mines & Smelting Co.	Salt Lake City, Utah	Power -----	20		3 S.	2 E.	Salt Lake	Sept.	2	1904	1844			
Little Cottonwood	Francis McDonald	Murray, Utah	Irrigation -----	100	25	2 S.	1 E.	Salt Lake	Sept.	15	1904	1924			
Little Cottonwood	C. H. Gibbs	Salt Lake City, Utah	Mining -----	0.5	5	3 S.	3 E.	Salt Lake	Sept.	15	1904	2347			
Big Cottonwood Creek	James J. Chambers	Salt Lake City, Utah	Power -----	10	20	3 S.	2 E.	Salt Lake	Sept.	17	1904	2664			
Big Cottonwood Creek	George W. Snow	Salt Lake City, Utah	Domestic & Cul.	50	25	2 S.	1 E.	Salt Lake	Oct.	5	1904	2944			
Big Cottonwood Creek	George D. B. Brinton	Murray, Utah	Irrigation -----	30	12	3 S.	1 E.	Salt Lake	Oct.	6	1904	2954			
Big Cottonwood Creek	James J. Chambers	Salt Lake City, Utah	Power -----	30	18	2 S.	3 E.	Salt Lake	Oct.	11	1904	2974			
Big Cottonwood Creek	Francis McDonald	Murray, Utah	Irrigation -----	10	23	2 S.	1 E.	Salt Lake	Oct.	11	1904	2984			

Big Cottonwood Creek	Brown & Sanford Jr. Co.	Murray, Utah	Irrigation -----	60	25	2 S.	1 E.	Salt Lake City	Nov.	5	1904	2146
Big Cottonwood Creek	James J. Chambers	Salt Lake City, Utah	Power -----	30	13	2 S.	2 E.	Salt Lake City	Nov.	21	1904	2304
Parley's Creek	James J. Chambers	Salt Lake City, Utah	Power -----	30	24	2 S.	1 E.	Salt Lake City	Nov.	22	1904	2316
Big Cottonwood Creek	Salt Lake City-----	Salt Lake City, Utah	Power -----	100	25	2 S.	1 E.	Salt Lake City	Nov.	23	1904	2220
Big Cottonwood Creek	Salt Lake City-----	Salt Lake City, Utah	Domestic & Cul.	50	25	2 S.	1 E.	Salt Lake City	Nov.	23	1904	2237
Big Cottonwood Creek	Salt Lake City-----	Salt Lake City, Utah	Domestic & Cul.	50	25	2 S.	1 E.	Salt Lake City	Nov.	23	1904	2244
Big Cottonwood Creek	D B. Brinton and R.	Salt Lake City, Utah	Mining -----	10	13	3 S.	3 W.	Salt Lake City	Dec.	21	1904	2107
Parley's Creek	A. Huffaker -----	Salt Lake City, Utah	Power -----	4	9	2 S.	1 E.	Salt Lake City	Mar.	3	1905	186
Little Cottonwood Crk	O. P. Miller -----	Salt Lake City, Utah	Municipal -----	100	26	1 S.	1 E.	Salt Lake City	Mar.	11	1905	2804
Little Cottonwood Crk	Geo. W. Riter -----	Salt Lake City, Utah	Power -----	25	18	3 S.	2 E.	Salt Lake City	Mar.	11	1905	2916
Little Cottonwood Crk	Geo. W. Riter -----	Salt Lake City, Utah	Power -----	50	7	3 S.	2 E.	Salt Lake City	Mar.	16	1905	2894
Big Cottonwood Creek	Geo. W. Riter -----	Salt Lake City, Utah	Power -----	50	2	3 S.	1 E.	Salt Lake City	Mar.	16	1905	2904
Big Cottonwood Creek	Geo. W. Riter -----	Salt Lake City, Utah	Power -----	50	23	2 S.	1 E.	Salt Lake City	Mar.	22	1905	2904
Big Cottonwood Creek	Geo. W. Riter -----	Salt Lake City, Utah	Power -----	50	23	2 S.	1 E.	Salt Lake City	Mar.	22	1905	2904
Big Cottonwood Creek	Progress Co.	Murray, Utah	Irrigation -----	20	32	1 S.	1 E.	Salt Lake City	April	3	1905	2656
Little Cottonwood Crk	Progress Co.	Murray, Utah	Municipal -----	20	17	2 S.	1 E.	Salt Lake City	April	3	1905	2686
Spanish Fork River	Heber C. Jex -----	Spanish Fork, Utah	Power -----	60	2	9 S.	3 E.	Utah	April	21	1905	2654
Jordan River	Utah Light & Ry. Co.	Salt Lake City, Utah	Power -----	250	2	1 S.	1 W.	Salt Lake City	April	26	1905	2694
Jordan River	Hiram Bennion -----	Murray, Utah	Power -----	60	14	2 S.	1 W.	Salt Lake City	May	4	1905	2674
Alpine Creek	Don Strong et al.	Alpine, Utah	Power -----	40	4	4 S.	2 E.	Utah	May	13	1905	2474
Little Willow Creek	Consolidated Jefferson	Salt Lake City, Utah	Power -----	10	6	3 S.	2 E.	Salt Lake City	May	15	1905	2284
Mill Creek	Gold & Cop. Min. Co.	Murray, Utah	Power -----	20	30	1 S.	1 E.	Salt Lake City	May	17	1905	2222
Big Cottonwood Creek	Progress Company	Murray, Utah	Power -----	100	23	2 S.	1 E.	Salt Lake City	May	17	1905	2314
Little Eddie Shatet	Little Eddie Gold & Cooper Mining Co.	Salt Lake City, Utah	Mining -----	1	26	3 S.	3 W.	Salt Lake City	May	21	1905	3414
Battle Creek	Harry W. Wadeley -----	Pleasant Grove, Utah	Power -----	10	22	3 S.	2 E.	Utah	June	11	1905	3524
State Canyon Creek	Thomas Boardman -----	Provo, Utah	Irrigation -----	20	8	7 S.	3 E.	Utah	June	20	1905	3714
Big Cottonwood Creek	James J. Chambers -----	Salt Lake City, Utah	Power -----	50	18	2 S.	2 E.	Salt Lake City	July	1	1905	3806
Bingham Creek	Ohio Copper Co.	Salt Lake City, Utah	Mining -----	0.66	25	3 S.	3 W.	Salt Lake City	July	10	1905	3927
Battle Creek	Pleasant Grove City-----	Pleasant Grove, Utah	Municipal -----	2	27	3 S.	3 E.	Utah	July	19	1905	3910
Wardsworth Spring	Joseph E. Moyer -----	Alpine, Utah	Irrigation -----	0.5	17	4 S.	2 E.	Utah	July	28	1905	3903

APPLICATIONS TO APPROPRIATE WATER FROM THE UTAH LAKE-JORDAN RIVER DRAINAGE-AREA.—Continued

Source of Supply.	Name of Applicant.	Postoffice Address of Applicant.	Use of Water.	Water Applied for in				Location of Point of Diversion.				Date of Priority Application No.			
				Cu. feet per sec.	Acre ft. sec.	Tp.	Range.	County.	Mo.	Day.	Yr.	Mo.	Day.	Yr.	No.
Mill Creek	Irving M. Higley	Salt Lake City, Utah	Miscellaneous	1.5	21	1 S.	1 E.	Salt Lake	Aug.	8	1905	1244			
American Fork River	J. H. Bizzger & J. E. Hill	Hill Salt Lake City, Utah	Power	20	21	3 S.	3 E.	Utah	Aug.	10	1905	4274			
Bingham Creek	Silver Shield Mining & Milling Co.	Salt Lake City, Utah	Mining	3	35	3 S.	3 W.	Salt Lake	Aug.	16	1905	429			
Provo River	Timpanogos Irr. Co.	Salt Lake City, Utah	Irrigation	8,500	29	5 S.	1 E.	Summit	Aug.	23	1905	1424			
Utah Lake	James H. Gardner et al	Heber City, Utah	Irrigation	40				Utah	Sept.	15	1905	5104			
Blue Cliff Creek and Battle Creek	L. L. Nunn	Provo, Utah	Power	200	110.3	34	5 S.	2 E.	Utah	Sept.	20	1905	5222		
Battle Creek	West Mt. Canal & Ir. Co.	Salt Lake City, Utah	Irrigation	3	36	5 S.	1 W.	Utah	Sept.	22	1905	4274			
Spring	C. M. Hanson	Pleasant Grove, Utah	Municipal	0.1	22	5 S.	2 E.	Utah	Sept.	22	1905	429			
Dry Creek	D. B. Brinton	West Jordan, Utah	Irrigation	0.1	33	2 S.	2 W.	Salt Lake	Sept.	20	1905	5222			
Big Cottonwood Creek	James J. Chambers	Murray, Utah	Irrigation	360	2	2 S.	1 E.	Salt Lake	Oct.	5	1905	5274			
Springs	Mt. Olympus Fruit & Salt Lake City	Salt Lake City, Utah	Power	10	24	2 S.	2 E.	Salt Lake	Oct.	6	1905	5226			
Pattle Creek	Pleasant Grove Co.	Pleasant Grove, Utah	Irrigation	6	36	1 S.	2 E.	Salt Lake	Oct.	7	1905	5274			
American Fork Creek	C. W. Earl	American Fork, Utah	Power	12	22	3 S.	2 E.	Utah	Oct.	10	1905	580			
Dry Hollow	Perry G. Bryson	Stockton, Utah	Power	40	33	4 S.	2 E.	Utah	Nov.	15	1905	676			
Rock Canyon Creek	James W. Bean	Provo, Utah	Irrigation	2	3	12 S.	1 E.	Utah	Nov.	18	1905	684			
Big Cottonwood Creek	Jos. J. Chambers	Salt Lake City, Utah	Municipal	2.5	28	6 S.	3 E.	Utah	Nov.	18	1905	684			
Snake Creek	Wm. H. Pool	Salt Lake City, Utah	Power	20	1,785	25	2 S.	1 E.	Salt Lake	Dec.	1	1905	624		
American Fork River	J. D. Dorsey	American Fork, Utah	Power	100	17	3 S.	4 W.	Wasatch	Dec.	16	1905	7064			
Spring	John H. Wootten	Salt Lake City, Utah	Irrigation	.1	26	4 S.	2 E.	Utah	Dec.	28	1905	713			
American Fork Creek	Nephi Plaster Mfg. Co.	American Fork, Utah	Power	40	28	1 N.	1 E.	Salt Lake	Dec.	25	1905	7146			
Salt Creek	Thomas A. Howard	Murray, Utah	Power	25	1	13 S.	1 E.	Juab	Jan.	31	1906	7814			
Spring Creek	Arthur Murphy	Alta, Utah	Power	6	2	2 S.	1 E.	Salt Lake	Feb.	19	1906	801			
Little Cottonwood Crk			Power	20	5	3 S.	3 E.	Salt Lake	Feb.	19	1906	806			

Jordan River	Perry E. Burnham	Woodcross, Utah	Irrigation	4	28	28	2 N.	1 W.	Davis	Feb.	26	1906	\$106	
Spring	E. M. Dittmore	Pleasant Grove, Utah	Irrigation	1	5	6 S.	2 E.	Utah	Mar.	3	1906	Sept.		
Deer Creek	C. W. Earl	American Fork, Utah	Power	40	40	14	2 S.	1 E.	Salt Lake	Mar.	20	1906	\$10	
Talcots Canyon Sprg	D. B. Brinton	Murray, Utah	Irrigation			14	2 S.	1 E.	Salt Lake	Mar.	21	1906	\$17	
Hughes Canyon Stream	D. B. Brinton	Murray, Utah	Irrigation			400	14	2 S.	1 E.	Salt Lake	Mar.	31	1906	\$18
Cedar Springs	Richard D. Oakley	Springville, Utah	Irrigation	1		400	26	7 S.	3 E.	Utah	April	25	1906	\$80
Spring	A. B. Christensen	Salt Lake City, Utah	Miscellaneous	.5		20	1 S.	1 E.	Salt Lake	April	25	1906	\$82	
Chicken Creek	W. J. Robinson	Salt Lake City, Utah	Power	20		33	14 S.	1 E.	Juab	May	8	1906	\$85	
Little Cottonwood Crk	Secret M. & M. Co.	Salt Lake City, Utah	Power	3		4	3 S.	3 E.	Salt Lake	May	12	1906	\$86	
Jordan River	L. L. Nunn	Provo, Utah	Power	650		26	4 S.	1 W.	Utah	May	15	1906	902	
Jordan River	John P. Sorenson	Salt Lake City, Utah	Irrigation	100		27	1 N.	1 W.	Salt Lake	June	6	1906	927	
Grove Creek	L. L. Nunn	Provo, Utah	Power		140	27	5 S.	2 E.	Utah	June	7	1906	928	
Bridal Veil Falls Crk	C. Y. Breck	Provo, Utah	Power	20		33	5 S.	3 E.	Utah	July	5	1906	972	
Greely Spring	S. W. Ross et al.	Lehi, Utah	Stockwatering	.1		29	9 S.	2 W.	Utah	July	12	1906	973	
Oak Springs	David Wagstaff et al.	American Fork, Utah	Irrigation	1		32	4 S.	2 W.	Utah	July	26	1906	987	
Mitchell's Hollow	David Mitchell	American Fork, Utah	Irrigation	2		10	5 S.	1 E.	Utah	July	30	1906	990	
Little Cottonwood Crk	J. E. Beveridge et al.	Salt Lake City, Utah	Power	.6		7	3 S.	3 E.	Salt Lake	Aug.	2	1906	993	
Spring	Daly West Mining Co.	Park City, Utah	Mining		6	6	3 S.	4 E.	Wasatch	Aug.	2	1906	995	
Tunnel	Utah Copper Co.	Salt Lake City, Utah	Mining			35	3 S.	3 W.	Salt Lake	Aug.	9	1906	1001	
Big Cottonwood Creek	John C. Barnard et al.	Salt Lake City, Utah	Irrigation	1		18	2 S.	3 E.	Salt Lake	Aug.	10	1906	1006	
Spring	D. R. Brinton	Murray, Utah	Irrigation	2.21		27	1 S.	2 E.	Salt Lake	Aug.	15	1906	1011	
Jordan River	Woodcross Gun Club	Salt Lake City, Utah	Irrigation	.5		28	2 N.	1 W.	Davis	Aug.	22	1906	1022	
Bingham Creek	Utah Copper Co.	Salt Lake City, Utah	Mining	4		35	3 S.	3 W.	Salt Lake	Aug.	29	1906	1034	
Spanish Fork River	American Asphaltum & Rubber Co.	Tucker, Utah	Power		2.5				Utah	Sept.	4	1906	1039	
Parley's Creek	Ray Van Cott et al.	Salt Lake City, Utah	Domestic	5		20	1 S.	1 E.	Salt Lake	Sept.	4	1906	1041	
Spring	C. D. Harding	Salt Lake City, Utah	Mining	1		23	2 S.	3 W.	Salt Lake	Sept.	13	1906	1055	
Chicken Creek	W. Scott Weiler	Salt Lake City, Utah	Power	40					Juab	Sept.	19	1906	1082	
Springs	Jas. H. Mays et al.	Salt Lake City, Utah	Domestic	2			8	1 S.	1 E.	Salt Lake	Sept.	28	1906	1073
Big Cottonwood Creek	W. B. Albertson	Salt Lake City, Utah	Power	40		24	2 S.	3 E.	Salt Lake	Oct.	9	1906	1089	
Provo River	M. F. Pack	Provo, Utah	Power	30		15	5 S.	3 E.	Utah	Oct.	15	1906	1076	
Rock Canyon Creek	A. B. Searle	Provo, Utah	Power	10		29	6 S.	3 E.	Utah	Oct.	16	1906	1101	
Provo River	Telluride Power Co.	Provo, Utah	Irrigation		20	7	6 S.	3 E.	Utah	Oct.	18	1906	1102	

APPLICATIONS TO APPROPRIATE WATER FROM THE UTAH LAKE-JORDAN RIVER DRAINAGE-AREA.—Continued

Source of Supply.	Name of Applicant.	Postoffice Address of Applicant.	Use of Water.	Water Applied for in				Point of Diversion.				Date of Priority	Application No.
				Cu. feet per sec.	Acre ft.	Sec.	Tp.	Range,	County.	Mo.	Day.		
Provo River	Telluride Power Co.	Provo, Utah	Irrigation	20	6	6 S.	3 E.	Utah	Oct.	18	1906	1103	
Provo River	Telluride Power Co.	Provo, Utah	Irrigation	20	7	6 S.	3 E.	Utah	Oct.	18	1906	1104	
Maple Springs	Wm. F. Barney et al.	Spanish Fork, Utah	Domestic	.12	.31	9 S.	2 W.	Utah	Oct.	26	1906	1112	
Provo River	F. M. Lyman, Jr.	Salt Lake City, Utah	Power	.54				Utah	Nov.	2	1906	1116	
Hobble Creek	T. R. Kelly	Springerville, Utah	Power	.18	6	8 S.	4 E.	Utah	Nov.	9	1906	1122	
Little Cottonwood Crk	Little Cottonwood Crk Co.	Salt Lake City, Utah	Power	.30	.12	3 S.	1 E.	Salt Lake	Nov.	10	1906	1123	
Little Cottonwood Crk	A. Z. Richards	Salt Lake City, Utah	Power	.30	.11	3 S.	1 E.	Salt Lake	Nov.	10	1906	1125	
American Fork Creek	Gideon Snyder	Salt Lake City, Utah	Power	.12	.21	3 S.	3 E.	Utah	Nov.	12	1906	1126	

## Applications to Appropriate Water from the Sevier River Drainage-area.

Source of Supply.	Name of Applicant.	Postoffice Address of Applicant.	Use of Water.	Water Applied for in			Location of Point of Diversion.			Date of Priority Appli- cation No.		
				Cu. foot per sec.	Acre ft. per sec.	Tp. Sec.	Range.	County.	No.	Mo.	Day.	Yr.
Wah Wah Springs-----	Newhouse Min. & Sm.	Salt Lake City, Utah	Mining -----	4	.0006	2	15 W.	Beaver	10	July	10	1903
Vance Spring -----	John Ryan -----	Milford, Utah -----	Irrigation -----	0.002		21	18 S.	Beaver	23	Dec.	23	1903
Water Hollow -----	John Ryan -----	Milford, Utah -----	Irrigation -----	0.002		16	20 S.	Beaver	23	Dec.	23	1903
Beaver River -----	L. L. Nunn -----	Provo, Utah -----	Power -----	.40		16	20 S.	5 W.	2	Mar.	2	1901
Iron Springs -----	Urith T. Jones -----	Cedar City, Utah -----	Irrigation -----	1		25	35 S.	Iron	26	Mar.	26	1901
Park Springs -----	X. T. Tanner -----	Milford, Utah -----	Stockwatering	0.04				Beaver	31	Aug.	31	1901
Sevier River -----	J. T. Tanner -----	Milford, Utah -----	Stockwatering	0.02				Beaver	31	Aug.	31	1901
Dog Valley Creek -----	A. J. Poulsen -----	Richfield, Utah -----	Power -----	.70		27	25 S.	4 W.	6	Sept.	6	1904
Rauch Creek -----	Jas. W. Paxman -----	Nephi, Utah -----	Irrigation -----	10		12	13 S.	2 W.	3	Sept.	3	1904
Rock Corral Spring -----	J. T. Tanner -----	Milford, Utah -----	Irrigation -----	.25				Irab	22	Oct.	22	1904
Ryan Spring -----	Chas. P. White -----	Bever City, Utah	Stockwatering	.05		28 S.	S W.	Beaver	11	Oct.	11	1904
Indian Basin Spring -----	Beaver Land & L.S.C. Co. -----	Bever City, Utah	Stockwatering	.5		9	27 S.	Beaver	17	Dec.	17	1901
Side Hill Spring -----	Packard & Lisonbee -----	Burbank, Utah -----	Stockwatering	.1				Beaver	27	Feb.	27	1905
Negro Head Spring -----	Packard & Lisonbee -----	Burbank, Utah -----	Stockwatering	.03				Beaver	27	Feb.	27	1905
Reservoir Canyon Spr. -----	Packard & Lisonbee -----	Burbank, Utah -----	Stockwatering	.03				Beaver	27	Feb.	27	1905
Meadow Springs -----	Packard & Lisonbee -----	Burbank, Utah -----	Stockwatering	.05				Beaver	27	Feb.	27	1905
Loss Creek -----	Sevier Irrl. Co. -----	Saltair, Utah -----	Stockwatering	.05				Sevier	27	Feb.	27	1905
Sevier River -----	Otter Creek Res. Co. -----	Bridfield, Utah -----	Irrigation -----	.25		26	23 S.	1 E.	12	Mar.	12	1905
Ferner Creek -----	Lewis A. Merrill et al. -----	Logan, Utah -----	Irrigation -----	.400				Sevier	14	Mar.	14	1905
Little Lost Creek -----	Dan Hanson -----	Eisnore, Utah -----	Irrigation -----	.12		19	12 S.	2 W.	19	Mar.	14	1905
Saltina Creek -----	James S. Fenson -----	Salina, Utah -----	Irrigation -----	.3		27	24 S.	1 E.	8	April	8	1905
Cottonwood Creek -----	Ephraim City -----	Ephraim, Utah -----	Power -----	10		1	22 S.	1 E.	9	May	9	1905
Meadow Spring -----	John Ryan et al. -----	Frisco, Utah -----	Power -----	6		18	17 S.	4 E.	17	May	17	1905
Duzzins Spring -----	H. S. Cahoon -----	Deseret, Utah -----	Stockwatering	2		14	17 S.	17 W.	17	May	22	1905
Jaud Creek -----	George A. Udall -----	Eureka, Utah -----	Stockwatering	.025		36	14 S.	11 W.	17	June	1	1905
Chicken Creek -----	S. S. Jones -----	Provo, Utah -----	Irrigation -----	5.25		5	11 S.	7 W.	34	June	17	1905
			Power -----	35		14 S.						

APPLICATIONS TO APPROPRIATE WATER FROM THE SEVIER RIVER DRAINAGE AREA—Continued

WATER FROM THE SEvier RIVER DRAINAGE-AREA.—Continued.

Source of Supply.	Name of Applicant.	Postoffice Address of Applicant.	Use of Water.	Location of Point of Diversion.				Date of Priority Application					
				Water Ap- plied for in per sec.	Acre ft. Cu. feet	Sec.	Tp.	Range.	County.	Mo.	Du.	Yr.	
Petrea Springs —	H. P. Anderson —	Eureka, Utah	Irrigation —	.001		20	10 S.	2 W.	Utah Juab	June	27	1905	
Little Cherry Creek —	Boston Tintie Min. Co.	Salt Lake City, Utah	Mining —	1					Beaver Sevier Sevier	July	26	1905	
Mud Spring —	Blue Jay Extension Mining Company —	Salt Lake City, Utah	Irrigation —						Millard	July	29	1905	
Booby Hole Creek —	Dan Hanson —	Elsinore, Utah	Mining —	1	500	32	24 S.	1 E.	Sevier	Aug.	10	1905	
Savier River —	A. J. Poulsom —	Richfield, Utah	Power —	80	37	25 S.	4 W.		Sevier	Aug.	25	1905	
Sulphur Spring —	R. H. Smith —	Beaver City, Utah	Stockwatering	0.081	33	25 S.	6 W.		Millard	Aug.	25	1905	
Dry Canyon Creek —	M. F. Murray —	Richfield, Utah	Irrigation —	16	16	26 S.	3 W.		Sevier	Oct.	6	1905	
Savier River —	Maudie Weimer —	Calder's Park, Utah	Power —	400	29	26 S.	4 W.		Plute	Nov.	16	1905	
Beaver River —	L. L. Nunn —	Provo, Utah	Power —	40	1,540	9	29 S.	5 W.	Beaver	Dec.	16	1905	
Beaver River —	Frank D. Farnsworth —	Beaver, Utah	Irrigation —	23.33	18	29 S.	6 W.		Beaver	Feb.	4	1906	
North Creek —	Chas. D. White et al. —	Beaver City, Utah	Irrigation —	7	28	28 S.	6 W.		Beaver	Feb.	20	1906	
Willow Spring —	John Ryan —	Frisco, Utah	Stockwatering	.002	2	28 S.	18 W.		Beaver	April	9	1906	
Mooney's Spring —	William Wood —	Minersville, Utah	Stockwatering	.002	27	20 S.	15 W.		Beaver	April	9	1906	
Lamessdorff Spring —	William Wood —	Minersville, Utah	Stockwatering	.002	10	29 S.	15 W.		Beaver	April	9	1906	
Monroe Creek —	Mary W. McCarty —	Monroe, Utah	Irrigation —	1	22	25 S.	3 W.		Sevier	May	3	1906	
Well Spring —	Blue Jay Extension Mining Co. —	Salt Lake City, Utah	Irrigation —						Iron	May	11	1906	
Mud Spring —	Chris Brotherson —	Mountain Pleasant, Ut.	Irrigation —	1	.18				Millard	May	21	1906	
Pigeon Creek —	Fred R. Davis —	Salt Lake City, Utah	Mining —	4					Iron	June	14	1906	
Wire Grass Springs —	W. J. Robinson —	Salt Lake City, Utah	Power —	10					Juab	June	19	1906	
Rowley Springs —	R. R. Tanner et al. —	Beaver, Utah	Stockwatering	.01	10	27 S.	8 W.		Beaver	June	26	1906	
Salt Creek —	Nephi City —	Nephi, Utah	Irrigation —						Beaver				
Pine Creek —	Nephi City —	Nephi, Utah	Power —						1 E. Juab	June	20	1906	
Cottonwood Creek —	Jos. E. Dennis —	Marysville, Utah	Irrigation —						2 E. Juab	June	29	1906	
Forked Springs —	J. M. Lauritzen —	Richfield, Utah	Irrigation —						4 W. Plute	July	2	1906	
	Jane E. Ketcham —	Burbank, Utah	Stockwatering						Sevier	July	9	1906	
										Beaver	July	19	1906

Deer Creek -----	Providence Gold M. Co.	Salt Lake City, Utah	Power -----	2	12	27 S.	5 W.	Plute	July	22	1906	1911	
South Creek -----	Orson Adair -----	Panguitch, Utah	Irrigation -----	2	27	34 S.	2 W.	Garfield	July	25	1906	1910	
Oak Creek -----	E. A. Billington -----	Spring City, Utah	Irrigation -----	3	28	15 S.	4 E.	Sanpete	July	27	1906	1910	
Monroe Creek -----	J. H. Erickson et al.	Richfield, Utah	Irrigation -----	20	22	25 S.	3 W.	Sevier	Aug.	20	1906	1902	
Salina Creek -----	J. D. Fife et al.	Salt Lake City, Utah	Power -----	50	1	22 S.	1 E.	Sevier	Aug.	13	1906	1008	
Oak Creek -----	Spring City Light & Milling Co.-----	Spring City, Utah	Power -----	10	1	16 S.	4 E.	San Pete	Aug.	14	1906	1903	
Snake Creek -----	E. M. Smith -----	Garrison, Utah	Irrigation -----	2	1	22 S.	20 W.	Millard	Aug.	15	1906	1010	
Beaver River -----	W. F. Snyder -----	Salt Lake City, Utah	Power -----	10	1,091	1	29 S.	5 W.	Beaver	Aug.	22	1906	1023
Beaver River -----	W. F. Snyder -----	Salt Lake City, Utah	Power -----	10	1	29 S.	5 W.	Beaver	Aug.	22	1906	1021	
Beaver River -----	E. E. Odell -----	Glendora, Cal.	Irrigation -----	1,525	2	30 S.	10 W.	Beaver	Aug.	27	1906	1050	
Dry Canyon -----	Homer McCarty -----	Monroe, Utah	Irrigation -----	8	21	28 S.	2½ W.	Plute	Sept.	4	1906	1014	
Tibadore Creek -----	Homer McCarty -----	Monroe, Utah	Irrigation -----	2	27	28 S.	2½ W.	Plute	Sept.	4	1906	1015	
Cottonwood Gulch -----	W. U. Sargent -----	Marysville, Utah	Irrigation -----	1	10	29 S.	2½ W.	Plute	Sept.	4	1906	1014	
Granite Creek -----	Elex Colbath -----	Salt Lake City, Utah	Irrigation -----	15	10	12 S.	18 W.	Juab	Sept.	8	1906	1052	
South Granite Creek -----	Wm. H. Stout -----	Holiday, Utah	Irrigation -----	13	33	12 S.	17 W.	Juab	Sept.	17	1906	1056	
Urie Spring -----	Thomas Urie -----	Cedar City, Utah	Stockwatering .33	.33	9	35 S.	14 W.	Iron	Sept.	18	1906	1901	
Spring -----	Herbert E. Smith et al.	Fountain Green, Utah	Irrigation -----	.02	1	16 S.	12 W.	Millard	Sept.	21	1906	1064	
Coyote Creek -----	Ernest L. Godbe -----	Salt Lake City, Utah	Power -----	54	13	31 S.	2 W.	Garfield	Sept.	22	1906	1043	
Coyote Creek -----	Ernest L. Godbe -----	Salt Lake City, Utah	Power -----	54	19	31 S.	1 W.	Garfield	Sept.	22	1906	1057	
Peter Spring -----	P. P. Anderson -----	Nophi, Utah	Stockwatering -----	25	20	31 S.	1 W.	Millard	Sept.	26	1906	1070	
Coyote Creek -----	Seldon I. Clawson et al.	Salt Lake City, Utah	Power -----	50	17	31 S.	1 W.	Garfield	Oct.	1	1906	1075	
Coyote Creek -----	Seldon I. Clawson et al.	Salt Lake City, Utah	Power -----	50	9	31 S.	4 W.	Garfield	Oct.	12	1906	1091	
Sevier River -----	E. A. Thompson et al.	Circleville, Utah	Power -----	100	1,120	27	13 S.	4 W.	Juab	Oct.	15	1906	1067
Tanner Creek -----	Peter Mayer -----	Fountain Green, Utah	Irrigation -----		160	33	13 S.	4 W.	Juab	Oct.	15	1906	1088
Tanner Creek -----	Peter Mayer -----	Fountain Green, Utah	Irrigation -----		34	34 S.	3 W.	Garfield	Oct.	21	1906	1110	
Hunt Creek -----	Ezra T. Rappley, Jr.	Tropic, Utah	Irrigation -----	4.94	20	29 S.	5 W.	Beaver	Nov.	2	1906	1117	
Gearver River -----	L. L. Nunn -----	Provo, Utah	Power -----	10	5	Garfield	Nov.	16	1906	1128			
Billy Springs -----	D. L. Ross et al.	Coyote, Utah	Mining -----		1	Mount Pleasant	Millard	Nov.	22	1906	1130		

# Applications to Appropriate Water from the Great Salt Lake River Drainage-area.

Source of Supply.	Name of Applicant.	Postoffice Address of Applicant.	Use of Water.	Water Applied for in			Point of Diversion.			Date of Priority, Appli- cation No.		
				Cu. feet per sec.	Acre ft. sec.	Tp.	Range.	County.	No.	Da.	Vr.	
Deep Springs	Joseph Agri. & Stk Co.	Salt Lake City, Utah	Irrigation -----	5	2 S.	S W.	Tooele	Aug. 15 1903	390	1903	1903	0547
Spring	Southern Pacific Co.	San Francisco, Cal.	Miscellaneous -----	0.31	25	6 N.	Box Elder	Nov. 6 1903	365	1903	1903	0613
Sheep Spring	Joseph Agri. & Stk Co.	Salt Lake City, Utah	Irrigation -----	12	10	3 S.	Tooele	Nov. 30 1903	364	1903	1903	0614
Fish Spring							Tooele					
Salt Spring							Tooele					
Muskrat Spring							Tooele					
Burnt Spring							Tooele					
Lake Spring							Tooele					
Biz Spring	W. M. Strokey et al.	Lehi, Utah -----	Irrigation -----	10	36	1 S.	Tooele	Aug. 15 1903	390	1903	1903	0615
Farmington Creek	James H. Wilcox	Farmington, Utah -----	Irrigation -----	5	26	3 N.	Tooele	Dec. 14 1903	390	1903	1903	0616
Blue Creek	Wm. Anderson	Logan, Utah -----	Irrigation -----	20	31	13 N.	Tooele	Dec. 16 1903	390	1903	1903	0617
North Cottonwood	John Preece	Farmington, Utah -----	Irrigation -----	0.02	18	3 N.	Tooele	Dec. 17 1903	390	1903	1903	0618
Salt Wells Creek	Warren W. Hickman	Snowville, Utah -----	Irrigation -----	4	21	12 N.	Tooele	April 25 1904	390	1904	1904	0619
Meadow Springs	Utah Ner. G. & C. Co.	Ogden, Utah -----	Mining -----	0.25	31	6 N.	Tooele	May 20 1904	390	1904	1904	0620
Wire Grass Spring	Lewis C. Cunningham	Ogden, Utah -----	Mining -----	0.25	31	6 N.	Tooele	May 21 1904	390	1904	1904	0621
Spitz Springs	Israel Spitz	Salt Lake City, Utah -----	Stockraising -----	0.10	14	1 S.	Tooele	June 6 1905	390	1905	1905	0622
Spings	Karl Eilers	Salt Lake City, Utah -----	Mining -----	1	19	1 S.	Tooele	July 2 1905	390	1905	1905	0623
Spings	Karl Eilers	Salt Lake City, Utah -----	Mining -----	1	17	1 S.	Tooele	Oct. 14 1905	390	1905	1905	0624
Spings	Karl Eilers	Salt Lake City, Utah -----	Mining -----	1.5	21	1 S.	Tooele	Oct. 14 1905	390	1905	1905	0625
Spencer Spring	Utah Copper Co.	Salt Lake City, Utah -----	Mining -----	6	13	1 S.	Tooele	Oct. 14 1905	390	1905	1905	0626
Adamson's Spring	Utah Copper Co.	Salt Lake City, Utah -----	Mining -----	8	30	1 S.	Tooele	Oct. 18 1905	390	1905	1905	0627
Farmington Creek	E. W. Tatlock	Salt Lake City, Utah -----	Mining -----	12	19	1 S.	Tooele	Oct. 18 1905	390	1905	1905	0628
Factory Creek	Salt Lake Fish & D. Co.	Salt Lake City, Utah -----	Power -----	5	10	3 N.	Tooele	Oct. 18 1905	390	1905	1905	0629
Factory Creek	W. K. Dunne et al.	Milton, Utah -----	Mining -----	9	10	2 S.	Tooele	Oct. 21 1905	390	1905	1905	0630
Factory Creek	Thomas Weir	Salt Lake City, Utah -----	Irrigation -----	7	10	2 S.	Tooele	Nov. 28 1905	390	1905	1905	0631
Factory Creek	Thomas Weir	Salt Lake City, Utah -----	Irrigation -----	5	4	2 S.	Tooele	Dec. 13 1905	390	1905	1905	0632
				4	4	2 S.	Tooele	Dec. 13 1905	390	1905	1905	0633

Factory Creek	Thomas Weir	Salt Lake City, Utah	Irrigation	2.5	4	2 S.	4 W.	Tooele	13	1905	72263		
Mill Creek	Salt Lake Fish & D.C.	Salt Lake City, Utah	Irrigation	.5	5	2 S.	4 W.	Tooele	26	1905	710		
Factory Creek	Harrison Sperry	Salt Lake City, Utah	Irrigation	2	10	2 S.	4 W.	Tooele	26	1905	71263		
Artesian Creek	James Ingram	Salt Lake City, Utah	Irrigation	.5	24	9 N.	2 W.	Box Elder	1	1905	71263		
Choke Cherry Creek	Joseph Azri. & St'k Co.	Salt Lake City, Utah	Irrigation	.29	29	3 S.	7 W.	Tooele	2	1906	72504		
Soldier Canyon Creek	John J. Broecker	Salt Lake City, Utah	Irrigation	.29	25	4 S.	4 W.	Tooele	19	1906	774		
Spring	William W. Ruby	Ogden, Utah	Power	.10	7	6 N.	19 W.	Tooele	22	1906	73533		
Salt Springs	Jas. F. Faust et al.	Salt Lake City, Utah	Irrigation	.35	17	5 S.	18 W.	Tooele	12	1906	708		
Springs	T. R. & W.L. Ellerbeck	Salt Lake City, Utah	Miscellaneous	.80	17	5 S.	18 W.	Tooele	15	1906	801		
Spring	Bingham Metal Min. Co.	Tooele, Utah	Mining	.002	15	2 S.	6 W.	Tooele	19	1906	803		
Two Spring Canyon	A. J. Stookey	Clover, Utah	Power	.1	17	4 S.	3 W.	Tooele	2	1906	819		
Spring	Ephraim F. St. Jeor	Clover, Utah	Irrigation	.5	4	7 S.	6 W.	Tooele	20	1906	872		
Spring	John A. Erickson	Grantsville, Utah	Irrigation	.1	32	6 S.	6 W.	Tooele	20	1906	873		
Cook's Canyon Spring	Samuel N. Cook	Willard, Utah	Irrigation	.3	16	6 S.	18 W.	Tooele	20	1906	874		
Socorro Spring	Robert T. Brown	Grantsville, Utah	Stockwatering	.5	25	8 N.	2 W.	Box Elder	April	1906	887		
Willard Creek	Peter A. Nebeker et al.	Willard, Utah	Power	.1	6	5 S.	10 W.	Tooele	May	17	1906	906	
Ophir Creek	Elmer Davis et al.	Ophir, Utah	Power	.5	13	8 N.	2 W.	Box Elder	June	8	1906	908	
Farmington Creek	E. W. Tatlock et al.	Salt Lake City, Utah	Irrigation	.12	6	5 S.	4 W.	Tooele	June	2	1906	924	
Farmington Creek	E. W. Tatlock et al.	Salt Lake City, Utah	Power	.025	600	17	3 N.	1 E.	Davis	June	4	1906	925
Box Creek	Joseph Azri. & St'k Co.	Salt Lake City, Utah	Irrigation	.6.5	600	16	3 N.	1 E.	Davis	June	4	1906	926
Howard's Slough	Wm. H. Wilcox	Larion, Utah	Irrigation	.25	5	3 S.	7 W.	Tooele	June	22	1906	928	
Buck Spring	Parry F. Durfee et al.	Grantsville, Utah	Stockwatering	.025	36	5 N.	3 W.	Davis	July	25	1906	985	
Ophir Creek	Buckhorn Ore Co.	Salt Lake City, Utah	Mining	1	25	3 N.	9 W.	Box Elder	July	28	1906	991	
Spring	Buckhorn Ore Co.	Salt Lake City, Utah	Minig	.5	12	5 S.	4 W.	Tooele	Aug.	28	1906	1032	
Spring	B. H. Bullock & Co.	Provo, Utah	Irrigation	.5	71	5 S.	4 W.	Tooele	Aug.	28	1906	1032	
Subriber Springs	N. A. Scribner	Stockton, Utah	Stockwatering	.5	300	9	6 S.	2 W.	Utah	Sept.	1	1906	1058
Farmington Creek	Ben E. Rich	Centerville, Utah	Power	.4	17	3 N.	1 E.	Tooele	Sept.	5	1906	1017	
Cramer's Spring	G.M. & W.E. Matthews	Grantsville, Utah	Stockwatering	.03	25	2 N.	9 W.	Tooele	Sept.	7	1906	1059	
Willard Creek	V. P. Strange et al.	Salt Lake City, Utah	Power	.29	13	8 N.	1 W.	Box Elder	Oct.	17	1906	1059	
Kersey's Creek	L. H. Gray	Salt Lake City, Utah	Irrigation	.10	4	1 S.	2 W.	Salt Lake	Oct.	3	1906	1078	
Mill Creek	Geo. Mueller	Salt Lake City, Utah	Irrigation	.160	3	2 N.	1 E.	Davis	Oct.	4	1906	1090	
Willard Creek	E. E. Nelson	Salt Lake City, Utah	Power	.20	13	8 N.	2 W.	Box Elder	Oct.	20	1906	1105	
Bonne Spring	J. L. Hardin	Salt Lake City, Utah	Irrigation	.1	Tooele	Oct.	29	1906	1112				
Subriber Spring	Violet S. Scribner	Stockton, Utah	Stockwatering	.5	Tooele	Nov.	30	1906	1114				
North Canyon Creek	Alfred Boulton et al.	Bountiful, Utah	Irrigation	.5	Tooele	Nov.	30	1906	1124				

## Applications to Appropriate Water from the Weber River Drainage-area.

Source of Supply.	Name of Applicant.	Post-office Address of Applicant.	Use of Water.	Water Applied for in			Point of Diversion.			Date of Priority Application.			
				Cu. feet per sec.	Acre ft.	Sec.	Tp.	Range.	County.	Mo.	Da.	Yr.	Sec.
Weber River	W. L. Stewart	Warren, Utah	Irrigation -----	30		8	6 N.	2 W.	Weber	Sept.	28	1903	1403
Meadow Creek	Woods Cross Stock Co.	Woods Cross, Utah	Irrigation -----	1		4	3 N.	7 E.	Summit	Mar.	4	1904	3644
Spring	Geo. F. Seager	Odgen, Utah	Mining -----	0.14		24	6 N.	1 W.	Weber	June	25	1904	1480
Spring	Eva P. Lewis	Odgen, Utah	Irrigation -----	0.02		24	6 N.	1 W.	Weber	Aug.	30	1904	1740
Weber River	Weber Reservoir	Coalville, Utah	Irrigation -----	50		50	1 E.	1 W.	Weber	Dec.	5	1904	2206
Lott Creek	Power & Irrigation Co.	Coalville, Utah	Irrigation -----	600		30	6 N.	1 W.	Weber				
Taylor's Canyon	James E. Halverson	Odgen, Utah	Irrigation -----	20		30	6 N.	1 W.	Weber	Jan.	28	1905	2180
East Canyon Creek	Clayton Land & Crt. Co.	Salt Lake City, Utah	Irrigation -----	3		2	1 N.	1 W.	Weber	Jan.	31	1905	2540
Smith & Moorehouse	Frank C. Kelsay	Salt Lake City, Utah	Irrigation -----	100		1	1 S.	3 E.	Morgan	Feb.	10	1905	2570
Ozden River	Louis B. Spencer	Odgen, Utah	Irrigation -----	1,000		23	6 N.	7 E.	Summit	Mar.	13	1905	2920
Ozden River	Louis B. Spencer	Odgen, Utah	Domestic & Crt.	600		23	6 N.	1 E.	Weber	Mar.	13	1905	2946
Ozden River	Louis B. Spencer	Odgen, Utah	Power -----	200		6	6 N.	3 E.	Weber	Mar.	13	1905	2910
Weber River	Weber River Reservoir	Coalville, Utah	Irrigation -----	500		7	4 N.	2 E.	Summit	Mar.	31	1905	3066
Weber River	Heber C. Richards	Echo, Utah	Irrigation -----	7		25	3 N.	4 E.	Summit	April	29	1905	3200
Weber River	James J. Chambers	Salt Lake City, Utah	Power -----	300		8	4 N.	2 E.	Morgan	July	1	1905	3786
First Salt Creek	Lyman Skeen	Plain City, Utah	Irrigation -----	10		31	7 N.	2 W.	Weber	July	3	1905	3840
Smith & Moorehouse	Stillman-Brinton Livestock Co.	East Mill Creek, Utah	Power -----	25		34	1 N.	7 E.	Summit	July	8	1905	3900
First Salt Creek	W. L. Stewart	Warren, Utah	Irrigation -----	4		17	7 N.	2 W.	Weber	July	25	1905	4000
Spring	Ogden Canyon Rest Co.	Ogden, Utah	Domestic -----	0.03		17	6 N.	1 E.	Weber	Aug.	7	1905	4220
Ozden River	L. B. Spencer	Ogden, Utah	Power -----	40		23	7 N.	3 E.	Weber	Aug.	25	1905	4440
Weber River	H. E. Bassford	Salt Lake City, Utah	Irrigation -----	20		35	5 N.	3 W.	Weber	Sept.	28	1905	5490
Taylor Canyon Creek	Lewis Zitzman	Ogden, Utah	Irrigation -----	3		36	6 N.	1 W.	Weber	Oct.	21	1905	6214
U. P. R. R. Co.	Salt Lake City, Utah	Coalville, Utah	Miscellaneous -----	22.3		35	6 N.	1 W.	Weber	Nov.	3	1905	6370
Chalk Creek	James B. Rhend	Coalville, Utah	Irrigation -----	600		25	2 N.	6 E.	Summit	Nov.	25	1905	6400

Weber River -----	Weber Reservoir Power & Irrigation Co.	Coalville, Utah	Irrigation -----	1,000		\$ 8	4 N.	2 E.	Morgan Nov.	28	1905	B37G
East Spring -----	Ogden Canyon Res Co.	Ogden, Utah	Miscellaneous -----	1.6		\$ 22	6 N.	1 E.	Weber Nov.	27	1905	B37G
Weber River -----	Frank Y. Taylor	Salt Lake City, Utah	Power -----	200		\$ 11	1 S.	6 E.	Summit Dec.	6	1905	7434G
Tank Spring -----	Henefer Water Sys. Co.	Henefer, Utah	Municipal -----	.05		\$ 11	3 N.	4 E.	Summit Dec.	15	1905	7254G
Ordern River -----	Willard Young	Salt Lake City, Utah	Irrigation -----		75,000	\$ 23	6 N.	1 W.	Weber Dec.	20	1905	7296G
Ogden River -----	Willard Young	Salt Lake City, Utah	Power -----	300		\$ 15	6 N.	1 E.	Weber Dec.	20	1905	7344G
Weber River -----	Willard Young et al.	Salt Lake City, Utah	Irrigation -----	500		\$ 8	4 N.	2 E.	Morgan Jan.	17	1906	7246G
Hot Springs -----	C. M. Clay -----	Ogden, Utah	Miscellaneous -----	45		\$ 14	7 N.	2 W.	Weber Jan.	25	1906	7346G
Springs -----	Adam L. Peterson	Huntsville, Utah	Miscellaneous -----	1.5		\$ 13	6 N.	1 E.	Weber Feb.	21	1906	N07
Weber River -----	Adam L. Peterson	Huntsville, Utah	Miscellaneous -----	1		\$ 13	6 N.	1 E.	Weber Feb.	21	1906	S07
Weber River -----	Willard Young et al.	Salt Lake City, Utah	Power -----	500		\$ 4	3 N.	4 E.	Summit April	5	1906	S07
Weber River -----	Willard Young et al.	Salt Lake City, Utah	Power -----		160,000	\$ 4	3 N.	4 E.	Summit April	6	1906	S07
Spring -----	Eva P. Lewis	Ogden, Utah	Irrigation -----	.14		\$ 19	6 N.	1 E.	Weber May	20	1906	910
Pine Springs -----	Herbert J. Gregory	Lonepine, Wyoming	Irrigation -----	1.5		\$ 20	3 N.	15 E.	Summit May	21	1906	920
Shingle Creek -----	Timpangos Irrl. Co.	Hoher City, Utah	Irrigation -----		\$ 5,000	\$ 3	3 S.	7 E.	Summit June	14	1906	916
Shingle Creek -----	Timpangos Irrl. Co.	Hoher City, Utah	Irrigation -----		15,000	\$ 3	3 S.	7 E.	Summit June	14	1906	914
Weber River -----	Weber Reservoir Power & Irrigation Co.	Coalville, Utah	Irrigation -----	500		\$ 8	4 N.	2 E.	Summit June	14	1906	908
Sand Ridge Cut -----	O. S. L. R. Co.	Salt Lake City, Utah	Miscellaneous -----	10		\$ 31	6 N.	1 W.	Weber Aug.	10	1906	1005
Weber River Seepage -----	Hooper River & N. Shore Gun Club -----	Hooper, Utah	Miscellaneous -----	6		\$ 36	6 N.	3 W.	Weber Aug.	27	1906	1020
Ward Creek -----	Amos L. Stone	Ogden, Utah	Power -----	2		\$ 14	2 N.	1 E.	Davis Sep.	22	1906	1045
Chalk Creek -----	Willard Young et al.	Salt Lake City, Utah	Irrigation -----		25,000	\$ 8	4 N.	2 E.	Summit Oct.	8	1906	1084
Weber River -----	Willard Young et al.	Salt Lake City, Utah	Irrigation -----		22,000	\$ 8	4 N.	2 E.	Summit Oct.	8	1906	1085
Smith & Morehouse F's	Willard Young et al.	Salt Lake City, Utah	Irrigation -----		12,000	\$ 1	1 S.	7 E.	Summit Oct.	8	1906	1086

## Applications to Appropriate Water from the Green River Drainage-Area.

Source of Supply.	Name of Applicant.	Postoffice Address of Applicant.	Water Applied for in		Location of Point of Diversion.		Date of Priority.		Appli- cation No.	
			Cu. feet per sec.	Acre ft.	Sec.	Tp.	Range.	County.		
Lake Creek -----	Cleveland Canal & Agri- culture Co.-----	Cleveland, Utah -----	Irrigation -----	40	17	14 S.	6 E.	Emery	Oct. 8 1903	186
Erickson Flat Creek	L. B. Dewey -----	Salt Lake City, Utah -----	Power -----	1,700	10	20 S.	16 E.	Emery	May 3 1904	1254
Green River -----	Wm. Witbeck -----	Vernal, Utah -----	Irrigation -----	1	34	2 N.	22 E.	Uintah	May 27 1904	1306
LittleDavenportCreek	Wm. Witbeck -----	Vernal, Utah -----	Irrigation -----		25	2 N.	23 E.	Uintah	May 27 1904	1306
Bull Pen Springs-----	John H. Reader -----	Vernal, Utah -----	Irrigation -----	1	16	20 S.	16 E.	Emery	Oct. 2 1904	2026
Jackson Creek -----	Frank Cook -----	Green River, Utah -----	Power -----	975	16	20 S.	16 E.	Emery	Oct. 8 1904	2066
Green River -----	Frank Cook -----	Green River, Utah -----	Irrigation -----	75	16	9 S.	3 E.	Wasatch	Nov. 26 1904	703
Indian Creek -----	United States -----	Salt Lake City, Utah -----	Irrigation -----	100,000	2	9 S.	3 E.			
Current Creek -----	United States -----			34	8 S.					
Green River -----	O.S.Buell & W.B.Searle	Provo, Utah -----	Power -----	2,500	36	10 S.	18 E.	Emery	Dec. 8 1904	234
Green River -----	Guy Sterling -----	Salt Lake City, Utah -----	Power -----	2,370	8	20 S.	7 E.	Carbon	Dec. 21 1904	211
Ferron Creek -----	John C. Lemon -----	Ferron, Utah -----	Irrigation -----	6	23	1 S.	1 E.	Emery	Feb. 18 1905	2016
Uinta River -----	Uinta River Irrl. Co. -----	Fort Duchesne, Utah -----	Stockwatering -----	25	36	18 S.	10 E.	Uintah	April 19 1905	3140
Wimmer Spring -----	Lars P. Overson -----	Cleveland, Utah -----	Irrigation -----	25	17	9 S.	22 E.	Uintah	April 25 1905	3176
White River -----	White River D. & C. Co.	Vernal, Utah -----	Irrigation -----	75	17	9 S.	22 E.	Uintah	May 5 1905	3216
White River -----	White River D. & C. Co.	Vernal, Utah -----	Power -----	300	17	9 S.	22 E.	Uintah	May 16 1905	3226
Utah Fuel Co. -----	Utah Fuel Co. -----	Salt Lake City, Utah -----	Mining -----	.51	36	14 S.	14 E.	Carbon	May 20 1905	3266
Utah Fuel Co. -----	Utah Fuel Co. -----	Salt Lake City, Utah -----	Domestic -----	.193	36	14 S.	14 E.	Carbon	May 20 1905	3276
Utah Fuel Co. -----	Utah Fuel Co. -----	Salt Lake City, Utah -----	Irrigation -----	.994	36	14 S.	14 E.	Carbon	May 20 1905	3286
William D. Foster -----	William D. Foster -----	Salt Lake City, Utah -----	Irrigation -----	1	25	12 S.	25 E.	Uintah	May 31 1905	3195
Eracuation Creek -----	William D. Foster -----	Salt Lake City, Utah -----	Irrigation -----	3	13	12 S.	25 E.	Uintah	May 31 1905	3146
Rock Creek -----	James H. Mease -----	Vernal, Utah -----	Irrigation -----	239	23	2 N.	7 W.	Wasatch	June 3 1905	3186
White Rocks River	C. G. Hall -----	White Rocks, Utah -----	Irrigation -----	105	4	1 S.	1 E.	Uintah	June 15 1905	3540
White Rocks River	C. G. Hall -----	White Rocks, Utah -----	Irrigation -----	32	19	2 N.	1 E.	Uintah	June 15 1905	3540
Uintah River	C. G. Hall -----	White Rocks, Utah -----	Irrigation -----	142.5	10	1 N.	1 W.	Uintah	June 15 1905	3540

White Rocks River	C. G. Hall	White Rocks, Utah	Irrigation	75	1905	3574
Uintah River	C. G. Hall	White Rocks, Utah	Irrigation	53	1905	3584
Lake Fork Creek	C. G. Hall	White Rocks, Utah	Irrigation	100	1905	3590
Lake Fork Creek	C. G. Hall	White Rocks, Utah	Irrigation	143	1905	3604
Deep Creek	Simpson Ross et al.	Verbal, Utah	Irrigation	10	1905	3624
Duchesne River	C. G. Hall	White Rocks, Utah	Irrigation	50	1905	3646
Lake Fork Creek	C. G. Hall	White Rocks, Utah	Irrigation	110	1905	3661
White Rocks River	C. G. Hall	White Rocks, Utah	Irrigation	50	1905	3684
Range Creek	William D. Foster	Salt Lake City, Utah	Irrigation	10	1905	3706
Duchesne River	C. G. Hall	White Rocks, Utah	Irrigation	12	1905	3803
Duchesne River	C. G. Hall	White Rocks, Utah	Irrigation	20	1905	3827
Uintah River	C. G. Hall	White Rocks, Utah	Irrigation	15	1905	3846
Duchesne River	C. G. Hall	White Rocks, Utah	Irrigation	5	1905	3846
Duchesne River	C. G. Hall	White Rocks, Utah	Irrigation	55	1905	3861
Duchesne River	C. G. Hall	White Rocks, Utah	Irrigation	20	1905	3874
Duchesne River	C. G. Hall	White Rocks, Utah	Irrigation	45	1905	3886
Uintah River	C. G. Hall	White Rocks, Utah	Irrigation	50	1905	3914
Ten Mile Wash	Frank Cook	Green River, Utah	Irrigation	72	1905	3914
Duchesne River	C. G. Hall	White Rocks, Utah	Irrigation	52	1905	3956
Duchesne River	C. G. Hall	White Rocks, Utah	Irrigation	13	1905	3964
Duchesne River	C. G. Hall	White Rocks, Utah	Irrigation	15	1905	3974
Ashley River	John T. Pope et al.	Vernal, Utah	Power	50	1905	3986
Lake Fork Creek	C. G. Hall	White Rocks, Utah	Irrigation	20	1905	4024
Lake Fork Creek	C. G. Hall	White Rocks, Utah	Irrigation	10	1905	4156
Duchesne River	C. G. Hall	White Rocks, Utah	Irrigation	3	1905	4161
Lake Fork Creek	C. G. Hall	White Rocks, Utah	Irrigation	22	1905	4176
Duchesne River	C. G. Hall	White Rocks, Utah	Irrigation	24	1905	4176
Duchesne River	C. G. Hall	White Rocks, Utah	Irrigation	24	1905	4176
Duchesne River	C. G. Hall	White Rocks, Utah	Irrigation	7	1905	4176
Duchesne River	C. G. Hall	White Rocks, Utah	Irrigation	5	1905	4176
Duchesne River	C. G. Hall	White Rocks, Utah	Irrigation	16	1905	4176
Lake Fork Creek	Dry Gulch Irrl. Co.	Vernal, Utah	Irrigation	174	1905	4176
Lake Fork Creek	Dry Gulch Irrl. Co.	Vernal, Utah	Irrigation	69	1905	4176
Ashley Creek	B. O. Colton, Jr.	Vernal, Utah	Irrigation	15	1905	4216
Duchesne River	Geo. M. McConaughy & Francis R. Hardy	Salt Lake City, Utah	Irrigation	476	1905	4216

APPLICATIONS TO APPROPRIATE WATER FROM THE GREEN RIVER DRAINAGE-AREA.—Continued.

Source of Supply.	Name of Applicant.	Postoffice Address of Applicant.	Use of Water.	Water Ap- plied for in			Location of Point of Diversion.			Date of Priority Appli- cation		
				Cu. feet per sec.	Acre ft. per sec.	Sec.	Tp.	Range.	County.	Mo.	Day,	Yr.
Green River -----	Guy Sterling-----	Salt Lake City, Utah-----	Power -----	2,450	200,000	8	16 S.	16 E.	Grand	Aug.	9	1905
Duchesne River -----	E. S. Kershaw-----	American Fork, Utah-----	Irrigation -----	46	1,9	2 S.	5 W.	Wasatch	Aug.	14	1906	
Duchesne River -----	L. L. Nunn-----	Provo, Utah -----	Power -----	1,600	48,960	8	2 N.	9 W.	Wasatch	Aug.	18	1905
Rock Creek -----	L. L. Nunn-----	Provo, Utah -----	Power -----	4,400	11	1 N.	8 W.	Wasatch	Aug.	18	1905	
Rock Creek -----	L. L. Nunn-----	Provo, Utah -----	Power -----	5,760	22	3 S.	4 W.	Wasatch	Aug.	18	1905	
Duchesne River -----	Washatch Developm't Co.-----	Heber City, Utah -----	Power -----	200	36	3 S.	4 W.	Wasatch	Aug.	18	1905	
Duchesne River -----	Washatch Developm't Co.-----	Heber City, Utah -----	Power -----	200	11	3 S.	5 W.	Wasatch	Aug.	19	1905	
Lake Fork Creek -----	Albert N. Jarvis-----	Salt Lake City, Utah-----	Irrigation -----	258	16	1 S.	4 W.	Wasatch	Aug.	19	1905	
Sinks in Dry Fork -----	Heber Carroll-----	Meser, Utah -----	Irrigation -----	5	5			Uintah	Aug.	19	1905	
Lake Canyon -----	Rock M. Pope-----	Salt Lake City, Utah-----	Irrigation -----	125	31	5 S.	7 W.	Wasatch	Aug.	19	1905	
Springs -----	F. P. Burrall-----	Salt Lake City, Utah-----	Irrigation -----	125	12	5 S.	7 W.	Wasatch	Aug.	25	1905	
Lakes -----	F. P. Burrall-----	Salt Lake City, Utah-----	Irrigation -----	125	17	4 S.	6 W.	Wasatch	Aug.	25	1905	
Sun's Canyon -----	Rock M. Pope-----	Salt Lake City, Utah-----	Irrigation -----	125	15	4 S.	7 W.	Wasatch	Aug.	25	1905	
Duchesne River -----	Washatch Developm't Co.-----	Heber, Utah -----	Power -----	290	11	2 S.	5 W.	Wasatch	Aug.	25	1905	
Duchesne River -----	Washatch Developm't Co.-----	Heber, Utah -----	Power -----	200	36	3 S.	3 W.	Wasatch	Aug.	25	1905	
Duchesne River -----	Duchesne Irrigat'n Co.-----	Heber, Utah -----	Irrigation -----	80	36	3 S.	3 W.	Wasatch	Aug.	25	1905	
Duchesne River -----	Duchesne Irrigat'n Co.-----	Heber, Utah -----	Irrigation -----	10 S.	12	3 S.	5 W.	Wasatch	Aug.	25	1905	
Duchesne River -----	Washatch Developm't Co.-----	Heber, Utah -----	Irrigation -----	10,66	11	3 S.	5 W.	Wasatch	Aug.	25	1905	
Lake Fork Creek -----	Rocky Point Iri. Co.-----	Heber, Utah -----	Irrigation -----	29	6	4 S.	4 W.	Wasatch	Aug.	25	1905	
Duchesne River -----	Dry Gulch Iri. Co.-----	Heber, Utah -----	Irrigation -----	54.5	16	1 S.	4 W.	Wasatch	Aug.	25	1905	
Lake Fork Creek -----	Brighton Clegg-----	Salt Lake City, Utah-----	Irrigation -----	300	25	1 S.	8 W.	Wasatch	Aug.	25	1905	
Duchesne River -----	Dry Gulch Iri. Co.-----	Heber, Utah -----	Irrigation -----	35	27	1 S.	4 W.	Wasatch	Sept.	1	1905	
Duchesne River -----	Dry Gulch Iri. Co.-----	Heber, Utah -----	Irrigation -----	160	36	3 S.	4 W.	Wasatch	Sept.	1	1905	
Indian Creek -----	Roy Daniels-----	Provo, Utah -----	Irrigation -----	2.3	24	3 S.	5 W.	Wasatch	Sept.	1	1905	
Duchesne River -----	C. C. Clapper-----	Price, Utah -----	Irrigation -----	2	11	5 S.	6 W.	Wasatch	Sept.	1	1905	
Duchesne River -----	Sam'l H. Jefferson et al.-----	Provo, Utah -----	Irrigation -----	8	12	3 S.	5 W.	Wasatch	Sept.	1	1905	
Uintah River -----	Silas Wright Chaney-----	Vernal, Utah -----	Irrigation -----	14	27	1 S.	1 E.	Uintah	Sept.	1	1905	

Wilson Creek -----	Ernest H. Wilson-----	Vernal, Utah-----	Irrigation -----	18	32	2 S.	1 E. Uintah	Sept. 6 1906	475G
Uintah River -----	Ernest H. Wilson-----	Vernal, Utah-----	Irrigation -----	24	15	1 S.	1 E. Uintah	Sept. 6 1906	470G
Indian Canyon Creek -----	Ormel Wilkins-----	Vernal, Utah-----	Irrigation -----	266	35	5 S.	7 W. Wasatch	Sept. 6 1906	481G
White Rock River -----	Patrick J. McGeeney et al.	Vernal, Utah-----	Irrigation -----	4	14	1 S.	1 E. Uintah	Sept. 6 1906	482G
Duchesne River -----	Bastide Graebert et al.	Redcliff, Colo.-----	Irrigation -----	4	28	2 S.	5 W. Wasatch	Sept. 6 1906	483G
Duchesne River -----	Shaw J. Kelley-----	Salt Lake City, Utah-----	Irrigation -----	25	298	2 S.	5 W. Wasatch	Sept. 7 1905	487
Duchesne River -----	F. M. Lyman, Jr.-----	Salt Lake City, Utah-----	Power -----	2,000	10	2 S.	5 W. Wasatch	Sept. 8 1905	488G
Duchesne River -----	F. M. Lyman, Jr.-----	Salt Lake City, Utah-----	Power -----	3,000	22	3 S.	2 W. Wasatch	Sept. 8 1905	489G
Duchesne River -----	F. M. Lyman, Jr.-----	Salt Lake City, Utah-----	Power -----	1,000	15	1 N.	8 W. Wasatch	Sept. 8 1905	490G
Lake Fork Creek -----	Howard C. Means-----	White Rocks, Utah-----	Irrigation -----	2	2	3 S.	3 W. Wasatch	Sept. 8 1905	491G
Duchesne River -----	Enoch Brown-----	Hoverville, Utah-----	Irrigation -----	10	20	2 S.	5 W. Wasatch	Sept. 11 1905	496G
Duchesne River -----	Ollie C. Hand-----	Myron, Utah-----	Irrigation -----	2,28	4	2 S.	7 W. Wasatch	Sept. 11 1905	492G
Duchesne River -----	Alma W. Weststaff-----	Charleston, Utah-----	Irrigation -----	3	13	2 S.	7 W. Wasatch	Sept. 14 1905	500G
Strawberry River -----	William Kirk-----	Lindon, Utah-----	Irrigation -----	2	15	4 S.	10 W. Wasatch	Sept. 14 1905	508G
Duchesne River -----	Emma Larson-----	Pleasant Grove, Utah-----	Irrigation -----	3	25	1 S.	7 W. Wasatch	Sept. 16 1905	511
Duchesne River -----	Bernice Peterson-----	Theodore, Utah-----	Irrigation -----	2,28	11	2 S.	7 W. Wasatch	Sept. 16 1905	512G
United States-----	United States-----	Fort Duchesne, Utah-----	Irrigation -----	10	15	2 S.	1 E. Uintah	Sept. 16 1905	513G
United States-----	United States-----	Fort Duchesne, Utah-----	Domestic -----	10	11	2 S.	1 E. Uintah	Sept. 16 1905	514G
United States-----	United States-----	Fort Duchesne, Utah-----	Domestic -----	2	24	2 S.	1 E. Uintah	Sept. 16 1905	515G
Rock Creek -----	J. L. Gibson-----	Salt Lake City, Utah-----	Irrigation -----	32	29	2 N.	6 W. Wasatch	Sept. 16 1905	516G
Duchesne River -----	F. C. Moyle-----	Salt Lake City, Utah-----	Irrigation -----	3	11	3 S.	5 W. Wasatch	Sept. 18 1905	518G
Uintah River -----	Raymond C. Taylor-----	Salt Lake City, Utah-----	Irrigation -----	3	28	2 S.	5 W. Wasatch	Sept. 18 1905	525G
Uintah River -----	P. L. Young-----	Salt Lake City, Utah-----	Irrigation -----	3	5	4 S.	3 W. Wasatch	Sept. 18 1905	527G
Strawberry River -----	John T. Pope-----	Vernal, Utah-----	Irrigation -----	1	14	4 S.	7 W. Wasatch	Sept. 19 1905	530G
Rock Creek -----	L. L. Nunn-----	Provo, Utah-----	Power -----	100	35,720	33 N.	8 W. Wasatch	Sept. 20 1905	535
Duchesne River -----	Noah M. Baldwin-----	Vernal, Utah-----	Irrigation -----	2	12	3 S.	5 W. Wasatch	Sept. 22 1905	510G
Huntington Creek -----	Huntington Canal & Reservoir Co.-----	Huntington, Utah-----	Irrigation -----	-----	7,000	-----	-----	Sept. 25 1905	542G
Uintah River -----	Thomas Durfum-----	Denver, Colo.-----	Irrigation -----	1.8	21	1 N.	1 E. Uintah	Sept. 27 1905	546G
Uintah River -----	Howard Naisbit-----	Ogden, Utah-----	Irrigation -----	1	17	1 S.	1 E. Uintah	Sept. 29 1905	522G
Springs in Bacon Rind A. H. Poulsen et al. -----	& Boulder's Canyon-----	Mt. Pleasant, Utah-----	Irrigation -----	12	36	15 S.	4 E. Emery	Sept. 29 1905	523
Duchesne River Rock Creek -----	I. T. Raleigh-----	Salt Lake City, Utah-----	Irrigation -----	1.8	30	1 N.	8 W. Wasatch	Sept. 29 1905	534
Duchesne River Rock Creek -----	L. L. Nunn-----	Provo, Utah-----	Power -----	-----	36	4 N.	8 W. Wasatch	Oct. 2 1905	541G

APPLICATIONS TO APPROPRIATE WATER FROM THE GREEN RIVER DRAINAGE-AREA.—Continued.

Source of Supply.	Name of Applicant.	Postoffice Address of Applicant.	Use of Water.	Water Applied for in Cu. feet per sec.				Location of Point of Diversion.				Date of Priority, Appli- cation No.			
				Sec.	Acre ft.	Tp.	Range.	County.	Mo.	Day.	Yr.				
Deep Creek -----	John Swenson et al. -----	Pleasant Grove, Utah -----	Irrigation -----	5.5	21	3 S.	9 W.	Wasatch -----	Oct.	3	1905	56363			
Red Creek -----	D. A. Adamson -----	American Fork, Utah -----	Irrigation -----	3	12	2 S.	9 W.	Wasatch -----	Oct.	3	1905	56416			
Uintah River -----	John T. Carlson -----	Salt Lake City, Utah -----	Irrigation -----	3	14	1 S.	1 W.	Utah -----	Oct.	3	1905	56417			
Toby Spring -----	Pittsburgh-Salt Lake Oil Company -----	Salt Lake City, Utah -----	Mining -----	.5	21	5 S.	5 W.	Wasatch -----	Oct.	7	1905	57144			
Current Creek -----	A. M. Murdock -----	Heber, Utah -----	Irrigation -----	5	27	3 S.	9 W.	Wasatch -----	Oct.	7	1905	57252			
Duchesne River -----	Dry Gulch Irrl. Co. -----	Heber, Utah -----	Irrigation -----	330	1	4 S.	4 W.	Wasatch -----	Oct.	7	1905	57316			
Duchesne River -----	Wasatch Develop. Co. -----	Heber, Utah -----	Irrigation -----	212	6	4 S.	2 W.	Wasatch -----	Oct.	7	1905	57317			
Current Creek -----	Geo. W. Darbill -----	Charleston, Utah -----	Irrigation -----	5	36	2 S.	10 W.	Wasatch -----	Oct.	7	1905	57343			
White River -----	C. G. Hall -----	White Rocks, Utah -----	Irrigation -----	62	7	9 S.	22 E.	Utah -----	Oct.	9	1905	57365			
Duchesne River -----	T. A. White -----	Woodland, Utah -----	Irrigation -----	3	30	1 S.	7 W.	Wasatch -----	Oct.	9	1905	57376			
Lone Spring -----	W. H. Weyher -----	Salt Lake City, Utah -----	Mining -----	.2	34	13 S.	14 E.	Carbon -----	Oct.	10	1905	57381			
Sawyer's Canyon -----	Leviel Thompson -----	Anabella, Utah -----	Irrigation -----	2.3	11	5 S.	4 W.	Wasatch -----	Oct.	10	1905	57391			
Duchesne River -----	Courtland A. Starr -----	Springville, Utah -----	Irrigation -----	3	22	4 S.	4 W.	Wasatch -----	Oct.	10	1905	58141			
Uintah River -----	Charles F. Keill -----	White Rocks, Utah -----	Irrigation -----	2.3	26	1 N.	1 W.	Utah -----	Oct.	10	1905	58142			
Current Creek -----	Wm. G. Elsmore -----	American Fork, Utah -----	Irrigation -----	2	2	4 S.	10 W.	Wasatch -----	Oct.	11	1905	58143			
Springs on Soldier Crk -----	S. M. Wooley -----	American Fork, Utah -----	Irrigation -----	3	29	3 S.	10 W.	Wasatch -----	Oct.	11	1905	58144			
Red Creek -----	Wm. Kershaw -----	American Fork, Utah -----	Irrigation -----	3	38	2 S.	8 W.	Wasatch -----	Oct.	11	1905	58861			
Uintah River -----	Hugo Kredit, Jr. -----	Fruita, Colorado -----	Irrigation -----	2.6	25	1 N.	1 W.	Utah -----	Oct.	11	1905	58902			
Tusher Canyon -----	Walter G. English -----	Eglin, Utah -----	Irrigation -----	20	1,630	12	20 S.	16 E.	Grand	Oct.	11	1905	58903		
Uintah River -----	Hattie Kinsey et al. -----	Vernal, Utah -----	Irrigation -----	22.6	25	1 N.	1 W.	Utah -----	Oct.	16	1915	59061			
Duchesne River -----	J. B. Hill & John Hair -----	Vernal, Utah -----	Irrigation -----	4	35	2 S.	5 W.	Wasatch -----	Oct.	16	1915	59062			
Duchesne River -----	Jarvis L. Bennett -----	Grand Junction, Colo. -----	Irrigation -----	2	13	3 S.	5 W.	Wasatch -----	Oct.	16	1905	59063			
Wolf Creek -----	E. J. Jeremy -----	Salt Lake City, Utah -----	Irrigation -----	3	27	1 N.	9 W.	Wasatch -----	Oct.	16	1905	602			
Water Canyon -----	W. H. Wayher -----	Salt Lake City, Utah -----	Mining -----	.5	9	14 S.	14 E.	Carbon -----	Oct.	19	1905	61711			
White Rocks River -----	Croyden Glassbrenner -----	Vernal, Utah -----	Irrigation -----	2	23	1 S.	1 E.	Utah -----	Oct.	21	1905	62274			
Uintah River -----	Dry Gulch Irrl. Co. -----	Heber, Utah -----	Irrigation -----	313	19	1 N.	1 E.	Utah -----	Oct.	21	1905	62275			

Uintah River	Dry Gulch Irr. Co.	Heber, Utah	Irrigation	103	18	1 S.	1 E.	Uintah	Oct.	21	1905	628A
Spring Sam's Canyon	Joseph R. Murdoch	Heber, Utah	Irrigation	5.33	6	5 S.	7 W.	Wasatch	Oct.	21	1905	621
Spring Sam's Canyon	Joseph R. Murdoch	Heber, Utah	Irrigation	2.33	23	4 S.	7 W.	Wasatch	Oct.	21	1905	621a
Uintah River	Dry Gulch Irr. Co.	Heber, Utah	Irrigation	32	19	1 N.	1 E.	Uintah	Oct.	24	1905	627
Green River	W. B. Hill	Jennings, Kansas	Irrigation	4	8	20 S.	10 E.	Grand	Oct.	26	1905	634G
Duchesne River	Wm. McQueeney	Park City, Utah	Irrigation	3	11	3 S.	5 W.	Wasatch	Oct.	27	1905	633G
Duchesne River	Arthur F. Buckley	Provo, Utah	Irrigation	2.33	20	1 N.	9 W.	Wasatch	Oct.	28	1905	635
Duchesne River	Jonathan Buckley	Provo, Utah	Irrigation	2.66	29	1 N.	9 W.	Wasatch	Oct.	28	1905	635a
White Rocks River	Christian Johnson	Vernal, Utah	Irrigation	1.8	5	1 S.	1 E.	Uintah	Oct.	28	1905	639G
Uintah River	Ezra J. Stevens	Logan, Utah	Irrigation	2	25	1 S.	1 W.	Uintah	Oct.	28	1905	637G
Lake Fork Creek	Moroni Fisher	Vernal, Utah	Irrigation	2	9	1 S.	4 W.	Wasatch	Oct.	31	1905	611G
Currant Creek	Ellis Preston	American Fork, Utah	Irrigation	3	25	2 S.	10 W.	Wasatch	Oct.	31	1905	612G
Soldier Creek	Thomas B. Parker	American Fork, Utah	Irrigation	3	32	3 S.	10 W.	Wasatch	Oct.	31	1905	631G
Uintah River	Uriah A. Smith et al.	White Rocks, Utah	Irrigation	20	10	1 N.	1 W.	Uintah	Nov.	2	1905	632G
Spring	Clas. Wallace et al.	Vernal, Utah	Irrigation	5.5	29	4 S.	3 W.	Wasatch	Nov.	3	1905	631G
Red Creek	William H. Kershaw	American Fork, Utah	Irrigation	2.64	24	2 S.	9 W.	Wasatch	Nov.	7	1905	601G
Duchesne River	Warren A. Colton	Vernal, Utah	Irrigation	4	25	1 S.	8 W.	Wasatch	Nov.	13	1905	623G
LaKE Fork Creek	Dry Gulch Irr. Co.	Vernal, Utah	Irrigation	50,000	32	1 N.	4 W.	Wasatch	Nov.	14	1905	674G
Lake Fork Creek	Dry Gulch Irr. Co.	Vernal, Utah	Irrigation	10,000	8	1 S.	4 W.	Wasatch	Nov.	14	1905	674b
Lake Fork Creek	Dry Gulch Irr. Co.	Vernal, Utah	Irrigation	15,000	8	1 S.	4 W.	Wasatch	Nov.	14	1905	674b
Uintah River	James J. Cook	Bingham, Utah	Irrigation	3	4	1 S.	1 E.	Uintah	Nov.	16	1905	675b
Duchesne River	Harry N. Veatch	Vernal, Utah	Irrigation	2	5	4 S.	3 W.	Wasatch	Nov.	17	1905	680
Uintah River	Ephraim Turrell et al.	Vernal, Utah	Irrigation	2.5	18	1 S.	1 E.	Uintah	Nov.	18	1905	682G
Duchesne River	Brenkik Ditch Co.	Theodore, Utah	Irrigation	5.47	21	2 S.	5 W.	Wasatch	Nov.	20	1905	685
Sand Creek	Joseph D. Harris et al.	Heber, Utah	Irrigation	5.25	35	1 S.	9 W.	Wasatch	Nov.	20	1905	686
Duchesne River	Jesse B. Peterson	Theodore, Utah	Irrigation	1.14	11	2 S.	7 W.	Wasatch	Nov.	20	1905	687G
Duchesne River	Ethelbert White	Murray, Utah	Irrigation	2	30	1 S.	7 W.	Wasatch	Nov.	20	1905	689G
Bush Creek	C. W. Mason et al.	Fort Duchesne, Utah	Mining	5	7			Uintah	Nov.	23	1905	621
Mammoth Draw	Earl H. Seely	Mount Pleasant, Utah	Irrigation	20	40			Emery	Nov.	23	1905	694G
Crawford Gold Draw	Will C. Clos	Mount Pleasant, Utah	Irrigation	20	6	20	2 S.	Wasatch	Nov.	29	1905	700G
Mackey Flat Wash	Joseph Swasey	Ferron, Utah	Stockwatering					Emery	Nov.	29	1905	701
Lang Hollow	Chris N. Peterson	Ferron, Utah	Stockwatering					Emery	Nov.	29	1905	702
Taylor Flat	David R. Seely	Castle Dale, Utah	Stockwatering					Emery	Nov.	29	1905	703
Dry Gulch	George D. Merkley	Vernal, Utah	Irrigation	50				Wasatch	Dec.	4	1905	714G

APPLICATIONS TO APPROPRIATE WATER FROM THE GREEN RIVER DRAINAGE-AREA.—Continued.

Source of Supply.	Name of Applicant.	Postoffice Address of Applicant.	Location of Point of Diversion.				Date of Priority Application			
			Water Ap- plied for in Cu feet per sec.	Acre ft. per sec.	Tp.	Sec.	Mo.	Day.	Yr.	Appli- cation No.
White River -----	C. G. Hall -----	White Rocks, Utah -----	Irrigation -----	15	9 S.	21 E.	Utah	5	1905	712G
Ashley Creek -----	Joseph P. Hackling -----	Vernal, Utah -----	Irrigation -----	14	32	21 E.	Utah	7	1905	714G
Duchesne River -----	Arthur W. Maxwell -----	Pecos, Utah -----	Irrigation -----	3	25	1 S.	S. W.	8	1905	717
Uintah River -----	John F. Glines et al. -----	Vernal, Utah -----	Irrigation -----	28	23	1 N.	1 W.	9	1905	719
Monjo's Creek -----	Alfred Shupp -----	Vernal, Utah -----	Irrigation -----	1	20	2 S.	1 E.	10	1905	720G
Green River -----	T. B. Beatty -----	Salt Lake City, Utah -----	Power -----	2,500	28	3 S.	5 W.	11	1905	721G
Strawberry River -----	Erasrus E. Pulley -----	Wallburg, Utah -----	Irrigation -----	2.28	10	1 S.	1 E.	12	1905	722G
Uintah River -----	Geo. Hackford et al. -----	Sandy, Utah -----	Irrigation -----	6.5	16	1 S.	4 W.	14	1905	724G
Lake Fork Creek -----	Dry Gulch Irr. Co. -----	Vernal, Utah -----	Irrigation -----	173	22	1 S.	4 W.	15	1905	726
Lake Fork Creek -----	Dry Gulch Irr. Co. -----	Vernal, Utah -----	Irrigation -----	24	15	1 N.	1 W.	16	1905	728a
Uintah River -----	Dry Gulch Irr. Co. -----	Vernal, Utah -----	Irrigation -----	325	18	1 S.	1 E.	17	1905	729
Uintah River -----	Dry Gulch Irr. Co. -----	Vernal, Utah -----	Irrigation -----	74	27	1 S.	5 W.	18	1905	727
Uintah River -----	H. J. Hackling et al. -----	Vernal, Utah -----	Irrigation -----	60,000	8	6 S.	22 E.	19	1905	727b
Green River -----	Geo. A. Slaugh -----	Vernal, Utah -----	Irrigation -----	4	33	1 S.	7 W.	20	1905	728
Duchesne River -----	Ernest V. Sadler -----	Salt Lake City, Utah -----	Irrigation -----	3	27	1 S.	4 W.	21	1905	729G
Lake Fork Creek -----	Melvin Pitt et al. -----	Vernal, Utah -----	Irrigation -----	7	11	4 S.	6 W.	22	1905	730G
Strawberry River -----	A. J. Fairbanks -----	Myton, Utah -----	Irrigation -----	2.28	35	3 S.	5 W.	23	1905	731G
Green River -----	Albert Bjornson -----	Vernal, Utah -----	Irrigation -----	2.28	18	2 N.	24 E.	24	1905	732G
Red Holes -----	Ed. F. Harmston et al. -----	Castle Dale, Utah -----	Irrigation -----	250	10	1	22 E.	25	1905	733G
Springs -----	Sinbad Res. Ass'n. -----	Moab, Utah -----	Stockwatering -----	.75	6	1 S.	1 E.	26	1905	734G
Uintah River -----	Henry C. Goodman -----	Vernal, Utah -----	Irrigation -----	.15	6	1 S.	9 W.	27	1905	735G
Ariantquin Creek -----	John W. Cook et al. -----	Vernal, Utah -----	Irrigation -----	3	6	6 S.	2 E.	28	1905	736G
Duchesne River -----	Millie R. Peters -----	Provo, Utah -----	Irrigation -----	4	19	3 S.	1 E.	29	1906	708G
Uintah River -----	Geo. A. Lyman et al. -----	Vernal, Utah -----	Irrigation -----	2	18	1 S.	6 W.	30	1906	708
Strawberry River -----	John Harrison -----	Dry Fork, Utah -----	Irrigation -----	2.66	11	4 S.	7 W.	31	1906	707
Strawberry River -----	Chas. A. Mott, Sr. -----	Vernal, Utah -----	Irrigation -----	1	14	4 S.	Wasteb.	30	1906	706G
Strawberry River -----	R. M. Pope -----	Salt Lake City, Utah -----	Irrigation -----					31	1906	706G

Gilsonite Wash -----	Thomas F. Holdaway-----	Vernal, Utah -----	Irrigation -----		22 E.	Utah -----	Feb. 1 1906	TS1
White Rocks River -----	Fred H. Neumyer-----	Fort Duchesne, Utah -----	Irrigation -----	2.66	140	33	S.S.	
Spring in Bore Hollow -----	Rock M. Pope-----	Salt Lake City, Utah -----	Irrigation -----	.3	13	4	1 S.	1 E.
Spring in Sam's Canyon -----	Rock M. Pope-----	Salt Lake City, Utah -----	Irrigation -----	1	21	4 S.	7 W.	Uintah
Strawberry River -----	Charles Simmons-----	Theodore, Utah -----	Irrigation -----	2	4 S.	8 W.	7 W.	Wasatch
Uintah River -----	Dry Gulch Irri. Co.-----	Vernal, Utah -----	Irrigation -----	61	9	1 N.	1 W.	Wasatch
Road Wash -----	Stewart R. Seely-----	Mount Pleasant, Utah -----	Irrigation -----		12			Emery
Rods Valley Wash -----	John A. Seely-----	Mount Pleasant, Utah -----	Irrigation -----		10			Emery
Fork Spring -----	Rock M. Pope-----	Salt Lake City, Utah -----	Irrigation -----	.55	31	5 S.	7 W.	Wasatch
Springs -----	R. M. Pope -----	Salt Lake City, Utah -----	Irrigation -----	.032	5 & 6	5 S.	6 W.	Wasatch
Springs -----	R. M. Pope -----	Salt Lake City, Utah -----	Irrigation -----	.06	5	5 S.	6 W.	Wasatch
Sowers Spring -----	Sam S. Porter-----	Salt Lake City, Utah -----	Irrigation -----	.5	34	5 S.	5 W.	Wasatch
Green River -----	E. T. Merritt-----	Green River -----	Irrigation -----	200	16	20 S.	16 E.	Grand
Limestone Spring -----	John S. Hacking-----	Vernal, Utah -----	Irrigation -----	2	15	1 S.	23 E.	Utah -----
Uintah River -----	John B. Elwood-----	White Rocks, Utah -----	Irrigation -----	2	25	1 N.	1 W.	Uintah
Duchesne River -----	James A. Maxwell-----	Theodore, Utah -----	Irrigation -----		14	1 S.	8 W.	Wasatch
Dry Gulch Creek -----	Lorin C. Caldwell-----	Vernal, Utah -----	Irrigation -----	4	21	1 S.	1 W.	Wasatch
Duchesne River -----	Lawrence Anding-----	Aspen, Colorado -----	Irrigation -----		1	4 S.	4 W.	Wasatch
Duchesne River -----	Francis R. Hardy-----	Salt Lake City, Utah -----	Irrigation -----	2	40,775	18	1 N.	1 W.
Duchesne River -----	Francis R. Hardy-----	Salt Lake City, Utah -----	Irrigation -----		7,436	19	2 S.	5 W.
Duchesne River -----	Francis R. Hardy-----	Salt Lake City, Utah -----	Irrigation -----		22,300	1	4 S.	5 W.
Rock Creek -----	Francis R. Hardy-----	Salt Lake City, Utah -----	Irrigation -----		7,680	13	1 S.	6 W.
Green River -----	E. T. Merritt-----	Green River, Utah -----	Power -----	10,000	17	20 S.	16 E.	Emery
Strawberry River -----	James Kirk-----	Linden, Utah -----	Irrigation -----	2	18	4 S.	10 W.	Wasatch
Duchesne River -----	Wasatch Developm't Co.-----	Heber, Utah -----	Power -----	200	3	4 S.	3 E.	Wasatch
Duchesne River -----	James W. Parker-----	Vernal, Utah -----	Irrigation -----	2,28	6	4 S.	3 W.	Wasatch
Green River -----	J. W. Sawyer et al.-----	Elkin, Utah -----	Irrigation -----	5	17	20 S.	16 E.	Grand
Duchesne River -----	Ethan L. Brown-----	Charleston, Utah -----	Irrigation -----	1,33	13	2 S.	7 W.	Wasatch
Duchesne River -----	Wasatch Developm't Co.-----	Heber, Utah -----	Power -----	200	6	4 S.	4 W.	Wasatch
Uintah River -----	Edward C. Sims et al.-----	White Rocks, Utah -----	Irrigation -----	4	10	1 N.	1 W.	Uintah
Mill Creek -----	Deseret Lake Res.&irr.Co.-----	Deseret Lake, Utah -----	Irrigation -----		3,650	28	15 S.	Carbon
Huntington River -----	Deseret Lake Res.&irr.Co.-----	Deseret Lake, Utah -----	Irrigation -----		3,650	15	17 S.	Carbon
Lake Fork -----	John W. Rockhill-----	Spanish Fork, Utah -----	Irrigation -----		2.5	18	10 W.	Wasatch
Lake Fork -----	E. K. Purdy-----	Myron, Utah -----	Irrigation -----	20	25	2 S.	3 W.	Wasatch

APPLICATIONS TO APPROPRIATE WATER FROM THE GREEN RIVER DRAINAGE-AREA.—Continued.

Source of Supply.	Name of Applicant.	Postoffice Address of Applicant.	Use of Water.	Location of Point of Diversion.				Date of Priority.	Appli- cation No.			
				Water Ap- plied for in Cu. feet per sec.	Acre ft. Sec.	Tp.	Range.	County.	Mo.	Da.	Yr.	
Dry Gulch Creek	J. Garnett Holmes	Roosevelt, Utah	Irrigation	5	22	2 S.	1 W.	Wasatch	May	7	1906	803
Duchesne River	Amos Johnson et al.	Maryton, Utah	Irrigation	9	16	3 S.	2 W.	Wasatch	May	10	1906	807
Lake Fork Creek	Wm. Luke	Maryton, Utah	Irrigation	1	3	3 S.	3 W.	Wasatch	May	14	1906	901
Uintah River	George T. Taylor	Vernal, Utah	Irrigation	3	35	2 S.	1 E.	Uintah	May	15	1906	902
White Rock Creek	Wayland E. Webb	Meaderville, Mont.	Irrigation	3	5	1 S.	1 E.	Uintah	May	15	1906	904
Bear Spring	Samuel J. Hatch	Vernal, Utah	Irrigation	.5	5	2 S.	25 E.	Uintah	May	21	1906	910
Duchesne River	J. A. Maxwell	Pearl, Utah	Irrigation	12	14	1 S.	8 W.	Wasatch	May	21	1906	911
Uintah River	Moses Moore	Park City, Utah	Irrigation	12	35	2 S.	1 E.	Uintah	May	24	1906	914
Dry Gulch Creek	James Brummitt	Bridgewater, Colo.	Irrigation	5.32	35	2 S.	2 W.	Wasatch	May	25	1906	915
Duchesne River	Carry T. Biggs et al.	Maryton, Utah	Irrigation	2.66	17	2 S.	3 W.	Wasatch	May	28	1906	916
Lake Fork Creek	H. M. Edwards Jr., et al.	Maryton, Utah	Irrigation	1.33	8	4 S.	2 W.	Wasatch	May	28	1906	917
Rock Creek	L. E. Nunn	Provo, Utah	Irrigation	12.5	18	3 S.	2 W.	Wasatch	May	28	1906	917
Rock Creek	L. E. Nunn	Provo, Utah	Irrigation	5,760	28	1 S.	6 W.	Wasatch	May	24	1906	921b
Duchesne River	Lionel J. Hammond	Theodore, Utah	Irrigation	4,800	33	1 S.	6 W.	Wasatch	May	24	1906	921b
White Rock Creek	Edward F. Jenkins	Salt Lake City, Utah	Irrigation	17	13	3 S.	5 W.	Wasatch	June	1	1906	922
Deep Creek	Raymond J. Walker	Denver, Colo.	Irrigation	4	23	1 S.	1 E.	Uintah	June	2	1906	923
Deep Creek	Raymond J. Walker	Denver, Colo.	Irrigation	8,000	25	1 S.	1 E.	Uintah	June	8	1906	929
Deep Creek	Raymond J. Walker	Denver, Colo.	Irrigation	300	25	1 S.	1 E.	Uintah	June	8	1906	930
Deep Creek	Raymond J. Walker	Denver, Colo.	Irrigation	10,000	25	1 S.	1 E.	Uintah	June	8	1906	931
Duchesne River	J. O. Hahn et al.	Maryton, Utah	Irrigation	320	6	4 S.	4 W.	Wasatch	June	8	1906	932
Uintah River	Uinah Ind. Ditch Co.	White Rocks, Utah	Irrigation	11	23	1 S.	1 W.	Uintah	June	9	1906	933
Price River	Fred Blackburn, et al.	Wellington, Utah	Irrigation	8	16	15 S.	1 E.	Caribou	June	13	1906	942
Lake Fork	Virginia Hill	Carterville, Mo.	Irrigation	2.66	27	1 S.	4 W.	Wasatch	June	16	1906	947
Brush Creek	John W. Bascom	Vernal, Utah	Irrigation	3	25	4 S.	22 E.	Uintah	June	18	1906	950
Green River	B. S. Kershaw	American Fork, Utah	Irrigation	3.2	24	1 S.	8 W.	Wasatch	June	20	1906	957
Currant Creek	James N. Powers	Salt Lake City, Utah	Irrigation	25	3	21 S.	16 E.	Grind	July	17	1906	979
	Sarah A. Dickerson	American Fork, Utah	Irrigation	3.32	25	3 S.	9 W.	Wasatch	July	26	1906	988

Antelope Draw	Nelson Button et al.	Vernal, Utah	Irrigation	5.5	16	4 S.	17	3 W.	Wasatch	July	14	1906	W.W.		
Duchesne River	Aspen Canal Co.	Theodore, Utah	Irrigation	3.09					Wasatch	Aug.	6	1906	1906		
Lake Fork Creek	Utah Reservoir Land & Development Co.	Pueblo, Colo.	Irrigation	200	18	3 S.	2 W.	Wasatch	Emery	Aug.	6	1906	1906		
Cedar Creek	Robert Gordon et al.	Huntington, Utah	Irrigation	15	11	16 S.	8 E.	Emery	Wasatch	Aug.	11	1906	1907		
Strawberry River	O. A. Halstead	Theodore, Utah	Irrigation	2.66	11	4 S.	1 W.	Wasatch	Wasatch	Aug.	18	1906	1914		
Brink Spring	John C. Taylor et al.	Moab, Utah	Stockwatering	.004				Grand	Grand	Aug.	20	1906	1916		
Tescher Seep	John C. Taylor et al.	Moab, Utah	Stockwatering	.007				Grand	Grand	Aug.	20	1906	1917		
Courthouse Wash	John C. Taylor et al.	Moab, Utah	Stockwatering	.008				Grand	Grand	Aug.	20	1906	1918		
Courthouse Wash	John C. Taylor et al.	Moab, Utah	Stockwatering	.012				Grand	Grand	Aug.	20	1906	1919		
Spring	John C. Taylor et al.	Moab, Utah	Stockwatering	.008				Grand	Grand	Aug.	20	1906	1920		
Farm Creek	John M. Reed	Woodland, Utah	Irrigation	2				Wasatch	Wasatch	Aug.	21	1906	1921		
Lake Fork	Shoshone Power Co.	Salt Lake City, Utah	Power		15,000	18	1 S.	7 W.	5 W.	Wasatch	Aug.	22	1906	1924	
Price River	R. W. Crockett	Price, Utah	Irrigation	150	27,000	1	14 S.	14 S.	9 E.	Carbon	Aug.	30	1906	1925	
Price River	R. W. Crockett	Price, Utah	Irrigation			1	14 S.	14 S.	9 E.	Carbon	Aug.	31	1906	1926	
Lake Canyon	John E. Oliver	Theodore, Utah	Irrigation		.125			5 S.	6 W.	Wasatch	Aug.		1906	1927	
Spring Creek	John H. Reader	Vernal, Utah	Irrigation		2	20	4 S.	22 E.	Untah	Untah	Sept.	4	1906	1928	
Duchesne River	William B. Russell	Kamas, Utah	Irrigation		1.33	30	1 S.	7 W.	Wasatch	Wasatch	Sept.	4	1906	1929	
Duchesne River	Hugo F. Liska	Maryon, Utah	Irrigation		2.5	16	4 S.	3 W.	Wasatch	Wasatch	Sept.	4	1906	1930	
San Rafael River	V. C. Ward et al.	Salt Lake City, Utah	Irrigation			25	21 S.	14 E.	Emery	Emery	Sept.	8	1906	1931	
Uintah River	C. L. Bailey et al.	Roosevelt, Utah	Power		150	150,000	29	1 N.	1 W.	Untah	Untah	Sept.	17	1906	1932
Pot Creek	Park Livestock Co.	Rock Springs, Wyo.	Irrigation		110	24	1 S.	25 E.	Untah	Untah	Sept.	17	1906	1933	
Uintah River	W. S. Perry	Vernal, Utah	Irrigation		2	5	1 N.	2 E.	Untah	Untah	Sept.	18	1906	1934	
Cottonwood Spring	Lars Frandsen	Price, Utah	Mining		.3				Emery	Emery	Sept.	19	1906	1935	
Uintah River	James N. Peacher	Independence, Utah	Irrigation		2			1 E.	Untah	Untah	Sept.	24	1906	1936	
Birch Creek	John Hutton	Green River, Wyo.	Irrigation		.155	14	3 N.	17 E.	Untah	Untah	Sept.	27	1906	1937	
Mud Spring	Laura S. Nielsen	Linwood, Utah	Domestic		.02	5	2 N.	21 E.	Untah	Untah	Sept.	27	1906	1938	
West Trouth Spring	Andrew O. Nelson	Linwood, Utah	Domestic		.04	16	2 N.	21 E.	Untah	Untah	Sept.	27	1906	1939	
East Trouth Spring	Andrew O. Nelson	Linwood, Utah	Domestic		.03	16	2 N.	21 E.	Untah	Untah	Sept.	27	1906	1940	
Duchesne River	Pioneer Canal Co.	Theodore, Utah	Irrigation		20			2 S.	Wasatch	Wasatch	Sept.	29	1906	1941	
Uintah River	Daniel Larsen et al.	White Rocks, Utah	Irrigation					5 W.	Untah	Untah	Oct.	4	1906	1942	
Warren Creek	Chas. M. Taylor	Bridgeport, Utah	Irrigation		7	23	1 N.	1 W.	Untah	Untah	Oct.	5	1906	1943	
Wilson Creek	John Glenn	Vernal, Utah	Irrigation		4	34	2 N.	24 E.	Untah	Untah	Oct.	9	1906	1944	
Dry Gulch Creek	John Glenn	Vernal, Utah	Irrigation		14	32	2 S.	1 E.	Untah	Untah	Oct.	9	1906	1945	

APPLICATIONS TO APPROPRIATE WATER FROM THE GREEN RIVER DRAINAGE-AREA.—Continued.

Source of Supply.	Name of Applicant.	Postoffice Address of Applicant.	Use of Water.	Water Applied for in				Location of Point of Diversion.				Date of Priority.	Appli- cation No.
				Cu. feet per sec.	Acre ft. Sec.	Tp.	Range.	County.	Mo.	Du.	Yr.		
Dry Gulch Creek	E. E. Horn	Myton, Utah	Irrigation	5.33	12	3 S.	1 W.	Uintah	Oct.	11	1906	1000	
San Rafael River	D. M. Landreth	Green River, Utah	Irrigation	150	25,000	20	21 S.	14 E.	Emery	Oct.	12	1906	1002
Uintah River	William J. Hunting	Roosevelt, Utah	Irrigation	2.5	24	1 N.	1 W.	Uintah	Oct.	12	1906	1003	
Uintah River	Less O'Drisoll	White Rocks, Utah	Irrigation	5.33	6	1 N.	1 E.	Uintah	Oct.	13	1906	1004	
Rock Creek	Blue Bench Irr. Co.	Theodore, Utah	Irrigation	130	19	2 S.	5 W.	Wasatch	Oct.	15	1906	1100	
Dry Gulch Creek	George F. Madden	White Rocks, Utah	Irrigation	3	15	1 S.	1 W.	Wasatch	Oct.	22	1906	1103	
Nephi Spring	George F. Madden	White Rocks, Utah	Irrigation	.5	22	1 S.	1 W.	Wasatch	Oct.	22	1906	1107	
Big Spring	A. B. Arwood	Stockmore, Utah	Irrigation	.5	17	1 N.	S W.	Wasatch	Oct.	23	1906	1108	
Spring Branch	Warren A. Colton	Vernal, Utah	Irrigation	1.6	30	1 S.	7 W.	Wasatch	Oct.	24	1906	1111	
Green River	Bob McDonald	Green River, Wyo.	Irrigation	10	3	22 S.	16 E.	Grand	Nov.	2	1906	1115	
Duchesne River	Wash Ditch Co.	Theodore, Utah	Irrigation	5.33	10	2 S.	6 W.	Wasatch	Nov.	2	1906	1118	
Duchesne River	Brown Ditch Co.	Theodore, Utah	Irrigation	3.33	11	2 S.	7 W.	Wasatch	Nov.	6	1906	1121	
Springs	James W. Lott et al.	Theodore, Utah	Domestic	.5	22	3 S.	4 W.	Wasatch	Nov.	15	1906	1127	
Green River	W. I. English	Elgin, Utah	Irrigation	270	10	20 S.	16 E.	Grand	Nov.	20	1906	1129	
Spring	F. L. Breckon	Elgin, Utah	Miscellaneous	.5	31	20 S.	15 E.	Grand	Nov.	28	1906	1131	
Uintah River	Henry P. Olsen	White Rocks, Utah	Irrigation	2	23	1 N.	1 W.	Uintah	Nov.	30	1906	1135	

TABLE

**Applications to Appropriate Water**  
Arranged for Each Drainage-area  
**IN ALPHABETICAL ORDER.**

## Applications to Appropriate Water from the Bear River Drainage-area.

Source of Supply.	Name of Applicant.	Postoffice Address of Applicant.	Water Applied for in				Location of Point of Diversion.				Date of Priority.	
			Use of Water.	Cu. feet per sec.	Acre ft. per sec.	Sec.	Twp.	Range.	County.	Mo.	Da.	Yr.
Anderson's Spring -----	Niels C. Nelson -----	Bryum, Utah -----	Irrigation -----	.1	100,000	32	11 N.	1 E.	Cache	Feb. 10	1906	SOG
Bear River -----	William Newbrough -----	Evanston, Wyo. -----	Irrigation -----		10,000	32	18 N.	120 W.	Uintah, Wyo.	Feb. 24	1906	912
Bear River -----	William Newbrough -----	Evanston, Wyo. -----	Irrigation -----			32	18 N.	120 W.	Rich	May 24	1906	013b
Bear River -----	Utah & Idaho Min. Co. Ogden, Utah -----	Ogden, Utah -----	Mining -----	1		11	8 N.	2 E.	Cache	June 15	1905	301C
Bear River -----	Neponset Land & Livestock Co. -----	Evanston, Wyo. -----	Irrigation -----		8,701.56	30	16 N.	120 W.	Rich	Aug. 10	1905	974
Bear River -----	William Newbrough -----	Evanston, Wyo. -----	Irrigation -----		40,000	34	10 N.	7 E.	Rich	May 24	1906	912b
Bear River -----	William Newbrough -----	Evanston, Wyo. -----	Irrigation -----		35,000	14	9 N.	7 E.	Rich	May 24	1906	012c
Blacksmith Fork River -----	Joseph Monson et al -----	Logan, Utah -----	Power -----	125.		14	10 N.	1 E.	Cache	Dec. 5	1905	713b
Blacksmith Fork River -----	Soren Hanson -----	Hyrum, Utah -----	Power -----	110		11	10 N.	2 E.	Cache	June 18	1906	983
Blacksmith Fork Creek -----	A. M. Hill -----	Salt Lake City, Utah -----	Power -----	110		1	10 N.	2 E.	Cache	Sept. 13	1906	1064
Blacksmith Fork Creek -----	Owen H. Gray -----	Salt Lake City, Utah -----	Power -----	200		3	10 N.	2 E.	Cache	July 18	1905	401C
Dry Fork Spring -----	Isaac Jorgensen -----	Hyde Park, Utah -----	Irrigation -----	0.75		5	12 N.	2 E.	Cache	May 18	1904	1326f
Glenn's Spring -----	Geo. H. Bradshaw et al.	Wellsville, Utah -----	Stockwatering -----	0.65		28	10 N.	1 W.	Cache	June 24	1905	372C
Haw Bush Creek -----	Wm. Lindley -----	Wellsville, Utah -----	Irrigation -----	2 to 12					Cache	Nov. 22	1903	01
Hugh Creek -----	James L. Shepard et al.	Logan, Utah -----	Power -----	15		4	14 N.	2 E.	Cache	April 17	1905	313G
J. A. Peterson's Spring -----	Smithfield City -----	Smithfield, Utah -----	Domestic&Cul.	0.5		24	13 N.	1 E.	Cache	June 15	1904	141C
Little Bear River -----	Wellsville Canal & Irr. Co.	Wellsville, Utah -----	Irrigation -----	40		10	9 N.	1 E.	Cache	Feb. 11	1904	88G
Logan River -----	Geo. C. Rigby -----	Logan, Utah -----	Power -----	200		12	12 N.	3 E.	Cache	Feb. 27	1904	927
Logan River -----	Geo. Q. Rich -----	Logan, Utah -----	Power -----	300		34	12 N.	1 E.	Cache	Oct. 20	1905	015G
Logan River -----	Eugene Schaub -----	Logan, Utah -----	Irrigation -----	2		34	3 N.	10 E.	Summit	Feb. 13	1906	730
Mill Creek -----	James A. Harvoka -----	Knight, Wyo. -----	Irrigation -----	2		34	3 N.	13 N.	Cache	June 9	1906	241
Newton Creek -----	John Jenkins -----	Newton, Utah -----	Irrigation -----	0.1		9	13 N.	1 W.	Cache	Aug. 1	1905	418G
Quarnstrom Springs -----	Soren Hanson -----	Hyrum, Utah -----	Domestic -----	1.25		4	10 N.	1 E.	Cache	Nov. 7	1905	056G
Rigby Springs -----	John E. Griffin et al.	Newton, Utah -----	Domestic -----	0.033		18	14 N.	2 E.	Cache	Mar. 10	1904	106C
Spring -----	A. B. Allen -----	Richmond, Utah -----	Domestic -----	1.66		12	14 N.	1 E.	Cache	Mar. 5	1906	822
Spring -----	Ann Preese -----	Cove, Utah -----	Culinary -----	1.66					Cache	Mar. 17	1906	827

APPLICATIONS TO APPROPRIATE WATER FROM THE BEAR RIVER DRAINAGE-AREA.—Continued.

Source of Supply.	Name of Applicant.	Postoffice Address of Applicant.	Use of Water.	Water Applied for in			Location of Point of Diversion.			Date of Priority, Appli- cation			
				Cu. feet per sec.	Acre ft. per sec.	Sec.	Tp.	Range.	County.	Mo.	Da.	Yr.	
Spring	Fred W. Thackwell	Odgen, Utah	Mining -----	1	.25	11	8 N.	2 E.	Cache	May	11	1906	900
Spring	James MacNeil	Logan, Utah	Irrigation -----			26	12 N.	1 E.	Cache	Feb.	10	1906	797
Summit Creek	Smithfield City	Smithfield, Utah	Power -----	50		8	13 N.	2 E.	Cache	Aug.	2	1905	420 G
Swan Creek	Geo. H. Robinson	Lake Town, Utah	Power -----	75		6	14 N.	5 E.	Rich	Jan.	5	1906	75 N.G
Woodruff Creek	H.H. Cook	Woodruff, Utah	Irrigation -----	50	59,864	33	9 N.	6 E.	Rich	Feb.	15	1906	800

## Applications to Appropriate Water from the Colorado River Drainage-area.

Source of Supply.	Name of Applicant.	Postoffice Address of Applicant.	Use of Water.	Water Ap- plied for in				Location of Point of Diversion.				Date of Priority.	Appli- cation No.
				Cu. feet per sec.	Acre ft. per sec.	Tp.	Range.	County.	Mo.	Da.	Yr.		
Arch Canyon Creek	George W. Perkins	Bluff, Utah	Irrigation --	.75	34	33 S.	4 E.	San Juan	Oct.	11	1905	301G	
Boulder Creek	Walter Baker	Boulder, Utah	Irrigation --	.001	30	34 S.	24 E.	Garfield	Jan.	23	1905	217G	
Boulder Spring	J. H. Wood	Monticello, Utah	Stockwatering					San Juan	Nov.	10	1905	672	
Deep Creek	Robert Peden	Torrey, Utah	Irrigation --	3.5	3	35 S.	23 E.	Wayne	Oct.	1	1906	1077	
Dodge Spring	Joseph F. Barton	Bluff, Utah	Stockwatering	.02	3	35 S.	24 E.	San Juan	Nov.	3	1905	655G	
East Canyon Spring	Francis Nielsen	Bluff, Utah	Stockwatering	.06	13	33 S.		San Juan	May	7	1906	894	
East Spring	Franklin J. Adams	Bluff, Utah	Stockwatering	.003				San Juan	Mar.	26	1906	843	
East Spring	Franklin J. Adams	Bluff, Utah	Stockwatering	.003				San Juan	Mar.	26	1906	844	
Horse Head Spring	George A. Adams	Monticello, Utah	Stockwatering	.01				San Juan	Nov.	1	1905	648G	
Iron Spring	F. P. Jones	Monticello, Utah	Stockwatering	.05				San Juan	Nov.	2	1906	1119	
Jackson's Spring	Urah & Eastern Cop. Co.	Salt Lake City, Utah	Miscellaneous	.02		40 S.	19 W.	Washington	Aug.	27	1906	1031	
Lavirken Creek	H. M. Wallace	Toquerville, Utah	Stockwatering	.01		40 S.	13 W.	Washington	Oct.	15	1906	1025	
Lower Willow Spring	R. B. Liston & Sons	Escalante, Utah	Stockwatering					Garfield	April	2	1904	111G	
Lower Canon Spring	R. B. Liston & Sons	Escalante, Utah	Stockwatering	0.04									
Rock Spring	R. B. Liston & Sons	Escalante, Utah	Stockwatering										
Winter Spring	R. B. Liston & Sons	Escalante, Utah	Stockwatering										
Montezuma Creek	E. B. Hyde et al.	Monticello, Utah	Irrigation --	10	18	34 S.	23 E.	San Juan	July	23	1906	284	
Montezuma Creek	E. B. Hyde et al.	Monticello, Utah	Irrigation --	2.5	35	33 S.	23 E.	San Juan	Aug.	25	1906	1028	
Mud Hole Ravine	Thos. Spencer	Escalante, Utah	Stockwatering	0.003				Kane	Feb.	2	1904	34G	
Muddy Creek	M. T. Whitney	Salt Lake City, Utah	Irrigation --	400	12,000	26	21 S.	6 E.	Emery	July	10	1905	322G
Rock Corral Spring	Robert P. Hott	Verdure, Utah	Stockwatering	.01				San Juan	Nov.	1	1905	617G	
Sheep Spring	H. M. Wallace	Toquerville, Utah	Stockwatering	.1		39 S.	13 W.	Washington	Oct.	15	1906	1096	
Spring	John Jones	Monticello, Utah	Stockwatering	.005		33 S.	23 E.	San Juan	Oct.	24	1906	1100	
Spring	James W. Imley	New Harmony, Utah	Stockwatering	.04	16	39 S.	11 W.	Washington	April	16	1906	864	
Spring Cogollie Canyon	Franklin J. Adams	Bluff, Utah	Stockwatering	.1				San Juan	Oct.	17	1905	698G	
Spring Elk Mts.	Franklin J. Adams	Bluff, Utah	Stockwatering	.4				San Juan	Oct.	19	1905	614	
Virgin River	Thomas Judd	La Virgen, Utah	Poyer --	110	30	41 S.	12 W.	Washington	July	13	1905	400G	
Willow Spring	William Wood	Minersville, Utah	Stockwatering	.002	1	29 S.	15 W.	Beaver	July	13	1906	977	

# Applications to Appropriate Water from the Utah Lake-Jordan River Drainage-Area.

Source of Supply.	Name of Applicant.	Postoffice Address of Applicant.	Use of Water.	Water Ap- plied for in			Point of Diversion.			Date of Priority Application.			
				Cu. feet per sec.	Acre ft. per sec.	Tp. Sec.	Range.	County.	Mo.	Da.	Yr.		
Alpine Creek	Don Strong et al.	Alpine, Utah	Power	40	4	4 S.	2 E.	Utah	May	13	1905	227	
American Fork Creek	John H. Wooten	American Fork, Utah	Power	40	4	4 S.	2 E.	Utah	Dec.	28	1905	746	
American Fork Creek	Gideon Snyder	Salt Lake City, Utah	Power	12	21	3 S.	3 E.	Utah	Nov.	12	1906	1126	
American Fork Creek	C. W. Earl	American Fork, Utah	Power	40	23	4 S.	2 E.	Utah	Nov.	15	1905	676	
American Fork River	Wm. H. Pool	American Fork, Utah	Power	100	26	4 S.	2 E.	Utah	Dec.	10	1905	730	
American Fork River	J.H. Bigger & J.E. Hill	Salt Lake City, Utah	Power	20	21	3 S.	3 E.	Utah	Aug.	10	1905	427	
Battle Creek	Pleasant Grove City	Pleasant Grove, Utah	Power	12	22	3 S.	2 E.	Utah	Oct.	10	1905	530	
Battle Creek	Pleasant Grove City	Pleasant Grove, Utah	Municipal	2	27	5 S.	3 E.	Utah	July	10	1905	216	
Battle Creek	Pleasant Grove City	Pleasant Grove, Utah	Municipal	3	22	5 S.	2 E.	Utah	Sept.	22	1905	216	
Big Hollow Canal	Harry W. Wadley	Pleasant Grove, Utah	Power	10	22	5 S.	2 E.	Utah	June	14	1905	226	
Dry Creek Canal Reservoir & Irrigation Co.	Dry Creek Canal Reservoir & Irrigation Co.	Springville, Utah	Irrigation	10	5	8 S.	3 E.	Utah	Jan.	30	1904	77	
Eliz. Cottonwood Creek	Francis McDonald	Murray, Utah	Irrigation	100	25	2 S.	1 E.	Salt Lake	Sept.	15	1904	132	
Big Cottonwood Creek	W. B. Albertson	Salt Lake City, Utah	Power	40	24	2 S.	3 E.	Salt Lake	Oct.	9	1906	1089	
Big Cottonwood Creek	George W. Snow	Salt Lake City, Utah	Domestic&Cul.	50	25	2 S.	1 E.	Salt Lake	Oct.	5	1904	204	
Big Cottonwood Creek	James J. Chambers	Salt Lake City, Utah	Power	30	18	2 S.	3 E.	Salt Lake	Oct.	11	1904	204	
Big Cottonwood Creek	Francis McDonald	Murray, Utah	Irrigation	10	23	2 S.	1 E.	Salt Lake	Oct.	11	1904	204	
Big Cottonwood Creek	John C. Barnard et al.	Salt Lake City, Utah	Irrigation	2.21	18	2 S.	3 E.	Salt Lake	Aug.	10	1906	210	
Big Cottonwood Creek	Brown & Sanford Ir.Co.	Murray, Utah	Irrigation	60	25	2 S.	1 E.	Salt Lake	Nov.	5	1904	211	
Big Cottonwood Creek	James J. Chambers	Salt Lake City, Utah	Power	30	13	2 S.	2 E.	Salt Lake	Nov.	21	1904	220	
Big Cottonwood Creek	Salt Lake City	Salt Lake City, Utah	Municipal	1,785	25	2 S.	1 E.	Salt Lake	Nov.	23	1905	216	
Big Cottonwood Creek	Salt Lake City	Salt Lake City, Utah	Power	100	25	2 S.	1 E.	Salt Lake	Nov.	23	1901	222	
Big Cottonwood Creek	Salt Lake City	Salt Lake City, Utah	Domestic&Cul.	50	25	2 S.	1 E.	Salt Lake	Nov.	23	1901	222	
Big Cottonwood Creek	James J. Chambers	Salt Lake City, Utah	Domestic&Cul.	50	25	2 S.	1 E.	Salt Lake	Nov.	23	1904	224	
Big Cottonwood Creek	D. B. Brinton and R. A. Huffaker	Salt Lake City, Utah	Power	10	24	2 S.	2 E.	Salt Lake	Oct.	6	1905	204	
		Murray, Utah	Power		4	9	2 S.	1 E.	Salt Lake	Mar.	3	1905	282

BIG Cottonwood Creek	James J. Chambers	Salt Lake City, Utah	Power	50	18	2 S.	3 E.	Salt Lake City, Utah	July 1	1905	2806	
BIG Cottonwood Creek	Geo. W. Ritter	Salt Lake City, Utah	Power	50	23	2 S.	1 E.	Salt Lake City, Utah	Mar. 22	1905	3036	
BIG Cottonwood Creek	Geo. W. Ritter	Salt Lake City, Utah	Power	50	23	2 S.	1 E.	Salt Lake City, Utah	Mar. 22	1905	3036	
BIG Cottonwood Creek	Progress Co.	Murray, Utah	Irrigation	20	22	1 S.	1 E.	Salt Lake City, Utah	April 3	1905	3076	
BIG Cottonwood Creek	Utah Progress Company	Murray, Utah	Power	100	23	2 S.	1 E.	Salt Lake City, Utah	May 17	1905	3246	
Bingham Creek	Utah Copper Co.	Salt Lake City, Utah	Mining	3	35	3 S.	3 W.	Salt Lake City, Utah	Aug. 29	1906	1034	
Bingham Creek	Stephen Hays et al.	Bingham Canyon, Utah	Miscellaneous	5	34	3 S.	3 W.	Salt Lake City, Utah	Sept. 27	1906	3176	
Bingham Creek	Geo. H. Robinson	Salt Lake City, Utah	Miscellaneous	1	24	3 S.	3 W.	Salt Lake City, Utah	Sept. 21	1903	406	
Bingham Creek	Utah Copper Min. Co.	Salt Lake City, Utah	Mining	4	24	3 S.	3 W.	Salt Lake City, Utah	Jan. 4	1904	716	
Silver Copper & Milling Co.	Ohio Copper Co.	Salt Lake City, Utah	Mining	3	35	3 S.	3 W.	Salt Lake City, Utah	Aug. 16	1905	429	
Bingham Creek	L. L. Nunn	Salt Lake City, Utah	Mining	0.66	25	3 S.	3 W.	Salt Lake City, Utah	July 10	1905	3816	
Bridal Veil Falls Crk	C. X. Breck	Provo, Utah	Power	20	110.3	34	5 S.	2 E.	Utah	Sept. 20	1905	532
Bridal Veil Falls Crk	Richard D. Oakley	Springville, Utah	Irrigation	1	33	5 S.	3 E.	Utah	July 5	1906	972	
Cedar Springs	W. Scott Weiler	Salt Lake City, Utah	Power	40	26	7 S.	3 E.	Utah	April 25	1906	880	
Chicken Creek	W. J. Robinson	Salt Lake City, Utah	Power	20	33	14 S.	1 E.	Juab	Sept. 19	1906	1062	
Deer Creek	C. W. Earl	American Fork, Utah	Power	40	360	2	2 S.	1 E.	Juab	May 8	1906	805
Dry Creek	D. B. Brinton	Murray, Utah	Irrigation	2	3	12 S.	1 E.	Salt Lake City, Utah	Oct. 20	1906	840	
Dry Hollow	Perry G. Bryson	Stockton, Utah	Irrigation	2	140	27	5 S.	2 E.	Juab	Oct. 5	1905	5476
Grove Creek	L. L. Nunn	Provo, Utah	Power	18	29	9 S.	2 W.	Utah	Nov. 18	1906	681	
Greely Spring	S. W. Ross et al.	Lehi, Utah	Stockwatering	1	400	6	8 S.	4 E.	Utah	June 7	1906	928
Hobble Creek	T. R. Kelly	Springville, Utah	Power	18	400	2	1 S.	1 E.	Salt Lake City, Utah	July 12	1906	976
Hughes Canyon Stream	D. B. Brinton	Murray, Utah	Irrigation	4	25	27	1 N.	1 W.	Salt Lake City, Utah	Nov. 9	1906	1122
Jordan River	Utah Light & Ry. Co.	Salt Lake City, Utah	Power	250	2	1 S.	1 W.	Salt Lake City, Utah	Mar. 21	1906	848	
Jordan River	Hyrum Bennington	Murray, Utah	Power	60	14	2 S.	1 W.	Salt Lake City, Utah	April 26	1905	3196	
Jordan River	L. L. Nunn	Provo, Utah	Power	650	26	4 S.	1 W.	Utah	May 4	1905	3256	
Jordan River	John P. Sorenson	Salt Lake City, Utah	Irrigation	100	27	1 N.	1 W.	Salt Lake City, Utah	May 15	1906	902	
Jordan River	Perry E. Burnham	Woodcross, Utah	Irrigation	4	28	2 N.	1 W.	Davis	June 6	1906	927	
Jordan River	Woodcross Gun Club	Salt Lake City, Utah	Irrigation	4	28	2 N.	1 W.	Salt Lake City, Utah	Feb. 26	1906	3106	
Little Cottonwood	Colonists Con. Min. Co.	Salt Lake City, Utah	Power	12	3 S.	2 E.	3 S.	Salt Lake City, Utah	Aug. 22	1906	1022	
Little Cottonwood Crk	Arthur Murphy	Alta, Utah	Power	20	3 S.	3 E.	5	Salt Lake City, Utah	May 25	1903	656	

APPLICATIONS TO APPROPRIATE WATER FROM THE UTAH LAKE-JORDAN RIVER DRAINAGE-AREA.—Continued

Source of Supply.	Name of Applicant.	Post Office Address of Applicant.	Use of Water.	Water Ap- plied for in				Point of Diversion.				Location of Diversion.		Date of Priority Appli- cation No.	
				Cu. feet per sec.	Acre ft. Sec.	Tp.	Range.	County.	Mo.	Dy.	Yr.				
Little Cottonwood Crk	J. E. Beveridge et al.	Salt Lake City, Utah	Power -----	20	7	3 S.	3 E.	Salt Lake	Aug.	2	1906	296			
Little Cottonwood	Continental Mines & Smelting Co.	Salt Lake City, Utah	Power -----	20	10	3 S.	2 E.	Salt Lake	Oct.	15	1903	316			
Little Cottonwood	James J. Chambers	Salt Lake City, Utah	Power -----	25	10	3 S.	2 E.	Salt Lake	July	22	1904	185G			
Little Cottonwood	Continental Mines & Smelting Co.	Salt Lake City, Utah	Power -----	20	5	3 S.	2 E.	Salt Lake	Sept.	2	1904	185G			
Little Cottonwood	C. H. Gibbs	Salt Lake City, Utah	Mining -----	0.5	5	3 S.	2 E.	Salt Lake	Sept.	15	1904	185G			
Little Cottonwood	James J. Chambers	Salt Lake City, Utah	Power -----	10	20	3 S.	2 E.	Salt Lake	Sept.	17	1904	185G			
Little Cottonwood	C. D. B. Brinton	Murray, Utah	Irrigation -----	30	12	3 S.	1 E.	Salt Lake	Oct.	6	1904	196G			
Little Cottonwood	Crk So. Jordan Canal Co.	Salt Lake City, Utah	Power -----	30	12	3 S.	1 E.	Salt Lake	Nov.	10	1906	205G			
Little Cottonwood	Crk A. Z. Richards	Salt Lake City, Utah	Power -----	30	11	3 S.	1 E.	Salt Lake	Nov.	10	1906	1125			
Little Cottonwood	Crk O. P. Miller	Union, Utah	Power -----	25	18	3 S.	2 E.	Salt Lake	Mar.	11	1905	291G			
Little Cottonwood	Crk Geo. W. Biter	Salt Lake City, Utah	Power -----	50	7	3 S.	2 E.	Salt Lake	Mar.	16	1905	294G			
Little Cottonwood	Crk Geo. W. Biter	Salt Lake City, Utah	Power -----	50	2	3 S.	1 E.	Salt Lake	Mar.	16	1905	301G			
Little Cottonwood	Crk Progress Co.	Murray, Utah	Municipal -----	20	17	2 S.	1 E.	Salt Lake	April	2	1905	306G			
Little Willow Creek	Secret M. & M. Co.	Salt Lake City, Utah	Power -----	3	4	3 S.	3 E.	Salt Lake	May	12	1906	890			
Little Eddie Shaft	Consolidated Jefferson Gold & Cop. Min. Co.	Salt Lake City, Utah	Power -----	10	6	3 S.	2 E.	Salt Lake	May	15	1905	228G			
Maple Springs	Little Eddie Gold & Copper Mining Co.	Salt Lake City, Utah	Mining -----	1	26	3 S.	3 W.	Salt Lake	May	31	1905	314G			
Mill Creek	Wm. F. Barney et al.	Spanish Fork, Utah	Domestic -----	1.12	31	9 S.	2 W.	Utah	Oct.	26	1906	1112			
Mill Creek	F. M. Lyman, Jr.	Salt Lake City, Utah	Power -----	20	30	1 S.	1 E.	Salt Lake	July	14	1903	111G			
Mill Creek	Progress Company	Murray, Utah	Power -----	20	21	1 S.	1 E.	Salt Lake	May	17	1905	263			
Mitchell's Hollow	Irving M. Higley	Salt Lake City, Utah	Miscellaneous -----	1.5	10	5 S.	1 E.	Utah	June	8	1905	124G			
Oak Springs	David Mitchell	American Fork, Utah	Irrigation -----	2	32	4 S.	2 W.	Utah	July	30	1906	150			
Parley's Creek	David Wagstaff et al.	American Fork, Utah	Irrigation -----	1	26	1 S.	1 E.	Salt Lake	July	26	1906	987			
		Salt Lake City	Municipal -----	100							11	1905	289G		

Parley's Creek	Salt Lake City	Salt Lake City, Utah	Power	25		24	2 S.	1 E.	Salt Lake	Nov.	23	1901	2216	
Parley's Creek	Ray Van Cott et al.	Salt Lake City	Domestic	5		20	1 S.	1 E.	Salt Lake	Sept.	4	1906	1011	
M. F. Pack	Provo	Utah	Power	30		15	5 S.	3 E.	Utah	Oct.	15	1906	1029	
Telluride Power Co.	Provo	Utah	Irrigation	20		7	6 S.	3 E.	Utah	Oct.	18	1906	1102	
C. F. Decker	Telluride Power Co.	Provo	Utah	Power	100		19	6 S.	3 E.	Utah	Mar.	14	1901	1016
Proto River	Telluride Power Co.	Provo	Utah	Irrigation	20		6	6 S.	3 E.	Utah	Oct.	18	1906	1103
Proto River	Telluride Power Co.	Provo	Utah	Irrigation	20		7	6 S.	3 E.	Utah	Oct.	18	1906	1104
F. M. Lyman, Jr.	Salt Lake City, Utah	Power	150		8,500					Utah	Nov.	2	1906	1116
Timpanogos Irr. Co.	Heber City, Utah	Irrigation	—	2.5		28	6 S.	3 E.	Utah	Aug.	23	1905	4226	
Rock Canyon Creek	James W. Bean	Power	Utah	—		10	20	6 S.	3 E.	Utah	Nov.	18	1905	084
Rock Canyon Creek	A. B. Sealie	Power	Utah	—		25	1	13 S.	1 E.	Juab	Oct.	16	1906	1101
Salt Creek	Nephi Plaster Mfg. Co.	Nephi	Utah	Power	—		11	12 S.	2 E.	Juab	Jan.	31	1906	7816
Salt Creek	Nephi Irrigation Co.	Nephi	Utah	Irrigation	—		5	12 S.	2 E.	Juab	April	21	1901	1196
Snake Creek	Thomas Boardman	Provo	Utah	Irrigation	20		8	7 S.	3 E.	Utah	June	20	1905	3716
Spanish Fork River	Jas. J. Chambers	Salt Lake City, Utah	Power	—		17	3 S.	4 W.	Wasatch	Dec.	1	1905	7046	
Spanish Fork River	Heber C. Jex	Power	Spanish Fork, Utah	—		60	2	9 S.	3 E.	Utah	April	21	1905	3156
American Asphaltum & Rubber Co.	Tucker, Utah	Power	—	2.5		28	9 S.	4 E.	Utah	Sept.	4	1906	1030	
Spanish Fork River	Geo. O. Noble	Power	Salt Lake City, Utah	—		100	23	2 S.	2 W.	Utah	July	19	1901	150
Spring	C. M. Hansen	Mining	West Jordan, Utah	—		0.1	23	1 N.	1 E.	Salt Lake	Sept.	30	1906	5376
Spring	J. D. Dorsey	Irrigation	Salt Lake City, Utah	—		.1	23	2 S.	1 E.	Salt Lake	Dec.	28	1905	743
Spring Creek	Thomas A. Howard	Power	Murray, Utah	—		6	2	2 S.	1 E.	Salt Lake	Feb.	19	1906	804
Spring	E. M. Dittmore	Pleasant Grove, Utah	Irrigation	—		1	5	6 S.	2 E.	Utah	Mar.	3	1906	8206
Spring	A. B. Christensen	Salt Lake City, Utah	Miscellaneous	.5		20	1 S.	1 E.	Salt Lake	April	25	1906	882	
Spring	Daly West Mining Co.	Park City, Utah	Mining	.6		6	3 S.	4 E.	Wasatch	Aug.	2	1906	907	
Spring	D. B. Brinton	Murray, Utah	Irrigation	.5		27	1 S.	2 E.	Salt Lake	Aug.	15	1906	1011	
Spring	C. D. Harding	Salt Lake City, Utah	Mining	—		23	2 S.	3 W.	Salt Lake	Sept.	13	1906	1035	
Spring	Jas. H. Mars et al.	Salt Lake City, Utah	Domestic	.2		8	1 S.	1 E.	Salt Lake	Sept.	28	1906	1073	
Spring	Utah Ice & C. Stor. Co.	Salt Lake City, Utah	Miscellaneous	1.5		1	1 S.	1 W.	Salt Lake	Aug.	26	1905	226	
Spring	Irving M. Higley	Salt Lake City, Utah	Miscellaneous	0.8		29	1 S.	1 E.	Salt Lake	Jan.	22	1901	786	
Spring	Mt. Olympus Fruit & Livestock Co.	Salt Lake City, Utah	Irrigation	—		6	36	1 S.	2 E.	Salt Lake	Oct.	7	1905	5726
Spring	Bingham Creek	Bingham, Utah	Mining	—		1	26	3 S.	3 W.	Salt Lake	Feb.	8	1901	576

## APPLICATIONS TO APPROPRIATE WATER FROM THE UTAH LAKE-JORDAN RIVER DRAINAGE AREA.—Continued

Source of Supply.	Name of Applicant.	Postoffice Address of Applicant.	Use of Water.	Water Applied for in				Location of Point of Diversion.				Date of Priority.	
				Cu. feet. per sec.	Acre ft. Sec.	T.P.	Range.	County.	Mo.	Da.	Yr.	Appli- cation No.	
Spring Creek	John A. Jones.	Murray, Utah	Irrigation	32	400	7	2 S.	1 E.	Salt Lake	Feb.	17	1904	80
Tulocots Canyon Spring	D. B. Brinton	Murray, Utah	Irrigation	—	14	2 S.	1 E.	Salt Lake	Mar.	31	1906	817	
Tunnel	Utah Copper Co.	Salt Lake City, Utah	—	35	3 S.	3 W.	Salt Lake	—	—	—	—	—	
Wardsworth Spring	Joseph E. Moyle	Alpine, Utah	Irrigation	1	35	3 S.	3 W.	Salt Lake	Aug.	9	1906	1004	
West Mountain Shaft	Utah Copper Co.	Salt Lake City, Utah	N. Mining	0.5	17	4 S.	2 E.	Utah	July	28	1905	4094	
Willow Creek	Geo. C. Lambert Jr.	Salt Lake City, Utah	N. Mining	10	13	3 S.	3 W.	Salt Lake	Dec.	21	1901	2404	
Utah Lake	James H. Gardner et al	Lehi, Utah	Smelting	2	24	3 S.	1 W.	Salt Lake	Nov.	14	1903	730	
Utah Lake	West Mt. Canal & Ir. Co.	Salt Lake City, Utah	Irrigation	40	29	5 S.	1 E.	Utah	Sept.	15	1905	5106	
			Irrigation	200	36	5 S.	1 W.	Utah	Sept.	22	1905	5376	

## Applications to Appropriate Water from the Sevier River Drainage-area.

Source of Supply.	Name of Applicant.	Postoffice Address of Applicant.	Use of Water.	Water Applied for in				Location of Point of Diversion.				Date of Priority Application No.			
				Cu. feet per sec.	Acre ft. per sec.	Sec.	Tr.	Range.	County.	Mo.	Da.	Yr.	Mo.	Da.	Yr.
Beaver River -----	L. L. Nunn -----	Provo, Utah -----	Power -----	40	1.540	16	29 S.	5 W.	Beaver	Mar.	2	1904	NG		
Beaver River -----	L. L. Nunn -----	Provo, Utah -----	Power -----	40	1.540	9	29 S.	5 W.	Beaver	Dec.	16	1905	729		
Beaver River -----	Frank D. Farnsworth -----	Beaver, Utah -----	Irrigation -----	23.33		13	29 S.	6 W.	Beaver	Feb.	4	1906	TSIG		
Beaver River -----	W. F. Snyder -----	Salt Lake City, Utah -----	Power -----		1.091	1	29 S.	5 W.	Beaver	Aug.	22	1906	1023		
Beaver River -----	W. F. Snyder -----	Salt Lake City, Utah -----	Power -----	10		1	29 S.	5 W.	Beaver	Aug.	22	1906	1024		
Beaver River -----	T. E. Odell -----	Glendora, Cal. -----	Irrigation -----		1.525	2	30 S.	10 W.	Beaver	Aug.	27	1906	1030		
Beaver River -----	L. L. Nunn -----	Provo, Utah -----	Power -----	10		20	29 S.	5 W.	Beaver	Nov.	2	1906	1117		
Billy Springs -----	D. L. Ross et al. -----	Coyote, Utah -----	Mining -----	.5					Garfield	Nov.	16	1906	1128		
Booby Hole Creek -----	Dan Hanson -----	Elsinore, Utah -----	Irrigation -----		500	32	24 S.	1 E.	Sheriff	Aug.	10	1905	1206		
Chicken Creek -----	S. S. Jones -----	Provo, Utah -----	Power -----	35		34	14 S.	1 E.	Jacob	June	17	1905	363G		
Cottonwood Creek -----	Ephraim, Utah -----	Ephraim, Utah -----	Power -----	6		18	17 S.	4 E.	San Pete	May	17	1905	330G		
Cottonwood Creek -----	J. M. Lauritzen -----	Richfield, Utah -----	Irrigation -----	1		23	23 S.	3 W.	Sheriff	July	9	1906	974		
Cottonwood Creek -----	W. U. Sargent -----	Marysville, Utah -----	Irrigation -----		1	10	29 S.	2½ W.	Pinto	Sept.	4	1906	1016		
Cottonwood Spring -----	James Larsen et al. -----	Mount Pleasant -----	Stockwatering -----						Millard	Nov.	22	1906	1120		
Coyote Creek -----	Seldon I. Clawson et al. -----	Salt Lake City, Utah -----	Power -----	.50		20	31 S.	1 W.	Garfield	Oct.	1	1906	1073		
Coyote Creek -----	Seldon I. Clawson et al. -----	Salt Lake City, Utah -----	Power -----	.50		17	31 S.	1 W.	Garfield	Oct.	1	1906	1076		
Coyote Creek -----	Ernest L. Godbe -----	Salt Lake City, Utah -----	Power -----	.54		13	31 S.	2 W.	Garfield	Sept.	22	1906	1006		
Coyote Creek -----	Ernest L. Godbe -----	Salt Lake City, Utah -----	Power -----	.54		19	31 S.	1 W.	Garfield	Sept.	22	1906	1057		
Deer Creek -----	Providence Gold M. Co. -----	Salt Lake City, Utah -----	Power -----	2		12	27 S.	5 W.	Plute	July	23	1906	983		
Dog Valley Creek -----	Jas. W. Paxman -----	Nephi, Utah -----	Irrigation -----	10		12	13 S.	2 W.	Jacob	Sept.	9	1904	157G		
Dry Canyon Creek -----	M. F. Murray -----	Richfield, Utah -----	Irrigation -----	16		16	26 S.	3 W.	Sheriff	Oct.	6	1905	570G		
Dry Canyon -----	Homer McCarty -----	Monroe, Utah -----	Irrigation -----	8		21	28 S.	2½ W.	Plute	Sept.	4	1906	1044		
Dugrins Spring -----	H. S. Cahoon -----	Deseret, Utah -----	Stockwatering -----	.025		36	14 S.	11 W.	Jacob	May	22	1905	239G		
Ferner Creek -----	Lewis A. Merrill et al. -----	Loam, Utah -----	Irrigation -----	12		19	12 S.	2 W.	Jacob	Mar.	14	1905	297G		
Forked Springs -----	Jane E. Ketcham -----	Burbank, Utah -----	Stockwatering -----	.05		19	12 S.	18 W.	Beaver	July	19	1906	980		
Granite Creek -----	Elex Colbath -----	Salt Lake City, Utah -----	Irrigation -----	15		34 S.	3 W.	Garfield	Sept.	8	1906	1052			
Hunt Creek -----	Ezra Y. Rappley, Jr. -----	Tropic, Utah -----	Irrigation -----	4.94		34	3 W.			Oct.	24	1906	1110		

APPLICATIONS TO APPROPRIATE WATER FROM THE SEVIER RIVER DRAINAGE-AREA.—Continued.

Source of Supply.	Name of Applicant.	Postoffice Address of Applicant.	Use of Water.	Water for in- piled r. Ap- plied per sec.			Point of Diversion. Location of			Date of Priority.	Appli- cation No.	
				Cu. feet per sec.	Acre ft.	Sec.	Tp.	Range.	County.	Mo.	Da.	Yr.
Indian Spring	J. T. Tanner	Milford, Utah	Stockwatering	0.04					Beaver	Aug.	31	1904
Indian Basin Spring	Packard & Lisonbee	Burbank, Utah	Stockwatering	.1					Beaver	Feb.	27	1905
Iron Springs	Uriah T. Jones	Cedar City, Utah	Irrigation	1		28	35 S.	12 W.	Iron	Mar.	26	1904
Judd Creek	George A. Udall	Eureka, Utah	Irrigation	8.25		5	11 S.	7 W.	Juab	June	1	1905
Lamseydorff Spring	William Wood	Xinersville, Utah	Stockwatering	.002		10	29 S.	15 W.	Beaver	April	9	1906
Little Cherry Creek	Boston Tin Tie Min. Co.	Salt Lake City, Utah	Mining	1					Juab	July		
Little Lost Creek	Dan Hanson	Eisnore, Utah	Irrigation	3		27	24 S.	1 E.	Sevier	April	8	1905
Loss Creek	Loss Creek Iri. Co.	Salina, Utah	Irrigation	25		26	23 S.	1 E.	Sevier	Mar.	13	1905
Meadow Spring	John Ryan et al.	Frisco, Utah	Stockwatering	2		14	28 S.	17 W.	Beaver	May	17	1905
Meadow Springs	Packard & Lisonbee	Burbank, Utah	Stockwatering	.08					Beaver	Feb.	27	1905
Monroe Creek	J. H. Erickson et al.	Richfield, Utah	Irrigation	20		22	25 S.	3 W.	Sevier	April	20	1906
Monroe Creek	Mary W. McCarty	Monroe, Utah	Irrigation	1		22	25 S.	3 W.	Sevier	May	3	1906
Mooney's Spring	William Wood	Minersville, Utah	Stockwatering	.002		21	29 S.	15 W.	Beaver	April	9	1906
Mud Spring	Blue Jay Extension Mining Company	Salt Lake City, Utah	Mining	1					Beaver	July	29	1905
Mud Spring	Chris Brotherson	Mountain Pleasant, Ut.	Irrigation	.18					Millard	May	21	1906
Negro Head Spring	Packard & Lisonbee	Burbank, Utah	Stockwatering	.03					Beaver	Feb.	27	1905
North Creek	Clas. D. White et al.	Beaver City, Utah	Irrigation	7		28	28 S.	6 W.	Beaver	Feb.	20	1906
Oak Creek	E. A. Billington	Spring City, Utah	Irrigation	3		28	15 S.	4 E.	Sanpete	July	27	1906
Oak Creek	Spring City Light & Milling Co.	Spring City, Utah	Power	10	1	16 S.	4 E.					
Park Springs	J. T. Tanner	Milford, Utah	Stockwatering	0.02					San Pete	Aug.	14	1906
Peter Spring	P. P. Anderson	Nephi, Utah	Stockwatering	.25					Beaver	Aug.	31	1904
Petrea Springs	H. F. Anderson	Eureka, Utah	Irrigation	.001					Millard	Sept.	20	1900
Pigeon Creek	W. J. Robinson	Salt Lake City, Utah	Power	10		20	10 S.	2 W.	Utah	June	27	1905
Pine Creek	Jos. E. Dennis	Marysville, Utah	Irrigation	2.5		25	14 S.	1 E.	Juab	June	19	1906
Ranch Creek	J. T. Tanner	Milford, Utah	Irrigation	.25		26	27 S.	4 W.	Platte	July	2	1906
									Beaver	Sept.	22	1904



## Applications to Appropriate Water from the Great Salt Lake Drainage-area.

Source of Supply.	Name of Applicant.	Postoffice Address of Applicant.	Use of Water.	Water applied for in			Point of Diversion.			Location of			Date of Priority.	Applicant No.
				Cu. feet per sec.	Acre ft.	Sec.	Tp.	Range.	County.	Mo.	Day.	Yr.		
Adamson's Spring	Utah Copper Co.	Salt Lake City, Utah	Mining	.12	.19	1 S.	2 W.		Salt Lake	Oct.	18	1905	6136	
Artesian Wells	James Ingram	Brigham City, Utah	Irrigation	.5	.34	9 N.	2 W.		Box Elder	Jan.	2	1906	7500	
Big Spring	W. M. Stoecker et al.	Lehi, Utah	Irrigation	.10	.36	1 S.	7 W.		Tooele	Dec.	14	1905	656	
Blue Creek	Wm. Anderson	Logan, Utah	Irrigation	.20	.31	13 N.	5 W.		Box Elder	Mar.	10	1904	306	
Box Creek	Joseph Agri. & Strk Co.	Salt Lake City, Utah	Irrigation	.65	.5	3 S.	7 W.		Tooele	June	22	1906	958	
Borrown Spring	J. L. Hardin	Salt Lake City, Utah	Irrigation	.1	.025				Tooele	Oct.	30	1906	1114	
Buck Spring	Parry F. Durfee et al.	Grantsville, Utah	Stockwatering	.064	.25	3 N.	9 W.		Box Elder	July	28	1906	921	
Choke Cherry Creek	Joseph Agri. & Strk Co.	Salt Lake City, Utah	Irrigation	.20	.20	3 S.	7 W.		Tooele	Jan.	19	1906	774	
Cook's Canyon Spring	Samuel N. Cook	Willard, Utah	Irrigation	.5	.25	8 N.	2 W.		Box Elder	April	30	1906	887	
Cramer's Spring	G.M. & W.E. Matthews	Grantsville, Utah	Stockwatering	.06	.25	2 N.	9 W.		Tooele	Sept.	17	1906	1050	
Deep Springs	Joseph Agri. & Strk Co.	Salt Lake City, Utah	Irrigation	.5	.26	2 S.	8 W.		Tooele	Aug.	15	1903	206	
Factory Creek	Salt Lake Fish & D.C.O.	Salt Lake City, Utah	Mining	.9	.10	2 S.	4 W.		Tooele	Nov.	28	1905	636	
Factory Creek	W. K. Dunne et al.	Milton, Utah	Irrigation	.7	.10	2 S.	4 W.		Tooele	Nov.	29	1905	7060	
Factory Creek	Thomas Weir	Salt Lake City, Utah	Irrigation	.5	.4	2 S.	4 W.		Tooele	Dec.	13	1906	7240	
Factory Creek	Thomas Weir	Salt Lake City, Utah	Irrigation	.5	.4	2 S.	4 W.		Tooele	Dec.	13	1906	7240	
Factory Creek	Thomas Weir	Salt Lake City, Utah	Irrigation	.25	.4	2 S.	4 W.		Tooele	Dec.	13	1905	7240	
Farmington Creek	Harrison Sperry	Salt Lake City, Utah	Irrigation	.2	.10	2 S.	4 W.		Tooele	Dec.	26	1906	7476	
Farmington Creek	James H. Wilcox	Farmington, Utah	Irrigation	.5	.26	3 N.	1 W.		Davis	Dec.	16	1903	6446	
Farmington Creek	E. W. Tatlock et al.	Salt Lake City, Utah	Irrigation						Davis	June	4	1906	925	
Farmington Creek	E. W. Tatlock et al.	Salt Lake City, Utah	Power						Davis	June	4	1906	925	
Farmington Creek	E. W. Tatlock	Salt Lake City, Utah	Power						Davis	June	4	1906	925	
Farmington Creek	Ben E. Rich	Centerville, Utah	Power						Davis	Oct.	31	1905	6106	
Howard's Slough	Wm. H. Wilcox	Centerville, Utah	Irrigation						Davis	Sept.	7	1906	1050	
Kersey's Creek	L. H. Gray	Salt Lake City, Utah	Irrigation						Davis	July	25	1906	985	
Meadow Springs	Utah-Nev. G. & C. Co.	Logan, Utah	Mining						Salt Lake	Oct.	4	1906	1050	
Mill Creek	Salt Lake Fish & D.C.O.	Salt Lake City, Utah	Irrigation						Box Elder	Feb.	6	1905	2530	
Mill Creek	Geo. Mueller	Salt Lake City, Utah	Irrigation						Tooele	Dec.	26	1905	710	
									Davis	Oct.	20	1906	1105	

North Cottonwood	John Preece	Farmington, Utah	Irrigation	---	0.02	750	18	3 N.	1 E.	Davis	April	25	1904	1290
North Canyon Creek	Alfred Boulton et al.	Bonnieful, Utah	Irrigation	---	1	12	5 S.	1 N.	1 E.	Davis	Nov.	30	1906	1182
Ophir Creek	Buckhorn Ore Co.	Salt Lake City, Utah	Mining	---	.5	11	5 S.	4 W.	Tooele	Aug.	28	1906	1032	
Ophir Creek	Buckhorn Ore Co.	Salt Lake City, Utah	Mining	---	12	6	5 S.	4 W.	Tooele	Aug.	28	1906	1033	
Ophir Creek	Elmer Davis et al.	Ophir, Utah	Power	---	12	21	12 N.	4 W.	Tooele	June	2	1906	324	
Salt Wells Creek	Warren W. Hickman	Snowville, Utah	Irrigation	---	4	17	5 S.	7 W.	Box Elder	Nov.	29	1904	2276	
Salt Springs	Jas. E. Faust et al.	Salt Lake City, Utah	Miscellaneous	80	17	18 W.	Tooele	Feb.	15	1906	801			
Scribner Spring	Violet S. Scribner	Stockton, Utah	Stockwatering	.5			Tooele	Nov.	12	1906	1124			
Scribner Springs	N. A. Scribner	Stockton, Utah	Stockwatering	.5			Tooele	Sept.	5	1906	1017			
Sheep Spring	Joseya Agri. & Strk Co.	Salt Lake City, Utah	Irrigation	---	12	10	3 S.	8 W.	Tooele	Nov.	30	1903	1264	
Fish Spring						3			Tooele					
Salt Spring						16	2 S.		Tooele					
Muskrat Spring						15			Tooele					
Burnt Spring						13			Tooele					
Lake Spring						6	2 S.		Tooele					
Sochranie Spring	Robert T. Brown	Grantsville, Utah	Stockwatering	.1										
Soldier Canyon Creek	John J. Broecker	Salt Lake City, Utah	Power	---	10	35	4 S.							
Spencer Spring	Utah Copper Co.	Salt Lake City, Utah	Mining	---	8	30	1 S.	4 W.	Tooele	May	17	1906	906	
Spitz Springs	Israel Spitz	Salt Lake City, Utah	Stockwatering	0.10	14	1 S.	2 W.	Salt Lake	Jan.	22	1906	7756		
Spring	Southern Pacific Co.	San Francisco, Cal.	Miscellaneous	0.31	25	6 N.	3 W.	Salt Lake	Oct.	15	1905	612		
Spring	Ephraim F. St. Jeor	Clover, Utah	Irrigation	---	1	22	6 S.	10 W.	Box Elder	Mar.	2	1905	2816	
Spring	John A. Erickson	Grantsville, Utah	Irrigation	---	3	16	6 S.	4 W.	Tooele	Nov.	6	1905	5064	
Spring	Bingham Metal Min. Co.	Tooele, Utah	Power	---	1	17	4 S.	3 W.	Tooele	April	20	1906	871	
Spring	William W. Ruby	Ordon, Utah	Irrigation	---	35	7	6 N.	19 W.	Tooele	April	2	1906	849	
Sprites	Karl Ellers	Salt Lake City, Utah	Mining	---	1	19	1 S.	3 W.	Salt Lake	Feb.	12	1906	798	
Sprites	Karl Ellers	Salt Lake City, Utah	Mining	---	1	17	1 S.	3 W.	Salt Lake	Oct.	14	1905	503	
Sprites	Karl Ellers	Salt Lake City, Utah	Mining	---	1	21	1 S.	3 W.	Salt Lake	Oct.	14	1905	501	
Sprites	Utah Copper Co.	Salt Lake City, Utah	Mining	---	6	13	1 S.	3 W.	Salt Lake	Oct.	14	1905	503	
Sprites	R. R. & W.L. Ellerbeck	Salt Lake City, Utah	Mining	---	.002	15	2 S.	6 W.	Tooele	Feb.	19	1906	502	
Sprites	B. H. Bullock & Co.	Provo, Utah	Irrigation	---		9	6 S.	2 W.	Utah	Sept.	1	1906	1065	
Two Spring Canyon	A. J. Stooker	Clover, Utah	Irrigation	---	.5	4	7 S.	6 W.	Tooele	April	20	1906	872	
Willard Creek	Peter A. Nebecker et al.	Willard, Utah	Power	---	6	13	8 N.	2 W.	Box Elder	June	8	1906	308	
Willard Creek	V. P. Strange et al.	Salt Lake City, Utah	Power	---	20	13	8 N.	1 W.	Box Elder	Oct.	3	1906	1078	
Willard Creek	E. E. Nelson	Salt Lake City, Utah	Power	---	20	13	8 N.	2 W.	Box Elder	Oct.	29	1906	1113	
Wire Grass Spring	Lewis C. Cunningham	Orgden, Utah	Mining	---	0.25	31	13 W.	13 W.	Box Elder	Feb.	6	1905	2516	

## Applications to Appropriate Water from the Weber River Drainage-area.

Source of Supply.	Name of Applicant.	Postoffice Address of Applicant.	Use of Water.	Location of Point of Diversion.				Date of Priority.	Application No.
				Water Applied per sec.	Acre ft. per sec.	Tp. Sec.	Range. County.		
Chalk Creek	James B. Rhoad	Covalville, Utah	Irrigation -----	600	25	2 N.	6 E.	Summit	25 1905 OEMG
Chalk Creek	Willard Young et al.	Salt Lake City, Utah	Irrigation -----	25,000	8	4 N.	2 E.	Summit	8 1906 S
East Canyon Creek	Clayton Land & Cat. Co.	Salt Lake City, Utah	Irrigation -----	3	2	1 N.	3 E.	Morgan	31 1905 256G
East Spring	Ogden Canyon Res't Co.	Ogden, Utah	Miscellaneous -----	1.6	22	6 N.	1 E.	Weber	27 1905 697G
First Salt Creek	Lyman Skeen	Plain City, Utah	Irrigation -----	10	31	7 N.	2 W.	Weber	3 1905 389G
First Salt Creek	W. L. Stewart	Warren, Utah	Irrigation -----	4	17	7 N.	2 W.	Weber	25 1905 404G
Hot Springs	C. M. Clay	Ordon, Utah	Miscellaneous -----	.45	14	7 N.	2 W.	Weber	25 1905 774G
Meadow Creek	Woods Cross Stock Co.	Woods Cross, Utah	Irrigation -----	1	4	3 N.	7 E.	Summit	4 1901 346G
Ogden River	Ordon B. Spencer	Ordon, Utah	Irrigation -----	1,000	23	6 N.	1 W.	Weber	13 1905 292G
Ogden River	Louis B. Spencer	Ordon, Utah	Domestic&Cul.	600	23	6 N.	1 E.	Weber	13 1905 293G
Ogden River	Louis B. Spencer	Orson, Utah	Power -----	200	6	6 N.	3 E.	Weber	13 1905 294G
Ogden River	L. B. Spencer	Ordon, Utah	Power -----	40	23	7 N.	3 E.	Weber	25 1905 444G
Ogden River	Willard Young	Salt Lake City, Utah	Irrigation -----	75,000	23	6 N.	1 W.	Weber	20 1905 736G
Ogden River	Willard Young	Salt Lake City, Utah	Power -----	300	15	6 N.	1 E.	Weber	20 1905 734G
Pine Springs	Herbert J. Gregory	Lonetree, Wyoming	Irrigation -----	1.5	20	3 N.	15 E.	Summit	31 1906 020
Sand Ridge Cut	J. S. L. R. R. Co.	Salt Lake City, Utah	Miscellaneous -----	10	31	6 N.	1 W.	Weber	10 1906 1005
Shingle Creek	Timpanogos Irrl. Co.	Heber City, Utah	Irrigation -----	8,500	3	3 S.	7 E.	Summit	June 14 1906 013
Smith & Moorehouse	Timpanogos Irrl. Co.	Heber City, Utah	Irrigation -----	15,000	3	3 S.	7 E.	Summit	June 14 1906 014
Smith & Moorehouse	Frank C. Kelser	Salt Lake City, Utah	Irrigation -----	100	1	1 S.	7 E.	Summit	Feb. 10 1905 257G
Smith & Morehouse	Stillman-Brinton Live-stock Co.	East Mill Creek, Utah	Power -----	25	34	1 N.	7 E.	Summit	July 8 1905 290G
Spring	Willard Young et al.	Salt Lake City, Utah	Irrigation -----	12,000	1	1 S.	7 E.	Summit	8 1906 104G
Spring	Geo. F. Seager	Ogden, Utah	Mining -----	0.14	24	6 N.	1 W.	Weber	June 23 1904 184G
Spring	Eva P. Lewis	Ogden, Utah	Irrigation -----	0.02	24	6 N.	1 W.	Weber	30 1904 174G
Spring	Ogden Canyon Res't Co.	Ogden, Utah	Domestic -----	0.03	17	6 N.	1 E.	Weber	7 1905 122G
Spring	Eva P. Lewis	Ogden, Utah	Irrigation -----	.14	19	6 N.	1 E.	Weber	29 1906 313
Spring	Adam L. Peterson	Huntsville, Utah	Miscellaneous -----	1.5	13	6 N.	1 E.	Weber	21 1906 807

Spring	Adam L. Peterson	Hunstville, Utah	Miscellaneous	1	13	6 N.	1 E.	Weber	Feb.	21	1906	808
Tank Spring	Henefer Water Sys. Co.	Henefer, Utah	Municipal	.05	11	3 N.	4 E.	Summit	Dec.	15	1906	725G
Taylor Canyon Creek	Levis Zitzman	Ordon, Utah	Irrigation	3	36	6 N.	1 W.	Weber	Oct.	21	1906	821 G
Taylor Canyon Creek	R. P. R. Co.	Salt Lake City, Utah	Miscellaneous	22.3	35	6 N.	1 W.	Weber	Nov.	3	1906	633 G
Taylor's Canyon	James E. Halverson	Ogdon, Utah	Irrigation	20	36	6 N.	1 W.	Weber	Jan.	28	1906	249 G
Ward Creek	Amos I. Stone	Ogden, Utah	Power	2	14	2 N.	1 E.	Davis	Sept.	22	1906	1005
Weber River	W. L. Stewart	Warren, Utah	Irrigation	30	8	6 N.	2 W.	Weber	Sept.	28	1906	44 G
Weber River	Weber Reservoir Power & Irrigation Co.	Coalville, Utah	Irrigation	600	29	5 N.	1 E.	Weber	Dec.	3	1904	226 G
Weber River	Weber River Reservoir Power & Irr. Co.	Coalville, Utah	Irrigation	500	30	6 N.	1 W.	Weber				
Weber River	Heber C. Richins	Echo, Utah	Irrigation	7	7	4 N.	2 E.	Summit	Mar.	31	1905	300 G
Weber River	James J. Clummers	Salt Lake City, Utah	Power	300	25	3 N.	4 E.	Summit	April	29	1905	323 G
Weber River	H. E. Bassford	Salt Lake City, Utah	Irrigation	20	30	8	4 N.	Morgan	July	1	1905	378 G
Weber River	Weber Reservoir Power & Irrigation Co.	Coalville, Utah	Irrigation	1,000	35	5 N.	3 W.	Weber	Sept.	28	1905	549 G
Weber River	Frank X. Taylor	Salt Lake City, Utah	Power	200	8	4 N.	2 E.	Morgan	Nov.	28	1905	885 G
Weber River	Willard Young et al.	Salt Lake City, Utah	Power	500	11	1 S.	6 E.	Summit	Dec.	6	1906	715 G
Weber River	Willard Young et al.	Salt Lake City, Utah	Power	500	8	4 N.	2 E.	Morgan	Jan.	17	1906	772 G
Weber River	Willard Young et al.	Salt Lake City, Utah	Power	160,000	4	3 N.	4 E.	Summit	April	5	1906	851
Weber River Seepage	Weber Reservoir Power & Irrigation Co.	Coalville, Utah	Irrigation	500	4	3 N.	4 E.	Summit	April	6	1906	855
Weber River Seepage	Weber River & N. Shore Gun Club	Hooper, Utah	Miscellaneous	6	8	4 N.	2 E.	Summit	June	27	1906	363
Weber River	Willard Young et al.	Salt Lake City, Utah	Irrigation	22,000	36	6 N.	3 W.	Weber	Aug.	27	1906	1029
					8	4 N.	2 E.	Summit	Oct.	8	1906	1085

## Applications to Appropriate Water from the Green River Drainage-Area.

Source of Supply.	Name of Applicant.	Postoffice Address of Applicant.	Water Applied for in				Location of Point of Diversion.				Date of Priority.				
			Cu. feet per sec.	Acre ft. Sec.	Tp.	Range	County.	Mo.	Da.	Yr.	Appli- cation No.				
Antelope Draw	Nelson Burton et al.	Vernal, Utah	Irrigation	5.5	16	4 S.	3 W.	Wasatch	July	14	1906	934			
Ashley River	John T. Pope et al.	Vernal, Utah	Power	50	12	3 S.	20 E.	Uintah	July	11	1906	3380			
Ashley Creek	B. O. Colton, Jr.	Vernal, Utah	Irrigation	15	1	3 S.	20 E.	Uintah	July	31	1905	4176			
Ashley Creek	Joseph F. Hacking	Vernal, Utah	Irrigation	14	32	3 S.	21 E.	Uintah	Dec.	7	1905	7160			
Arvinquin Creek	Millie R. Peters	Provo, Utah	Irrigation	3	6	6 S.	9 W.	Wasatch	Jan.	12	1906	7846			
Bear Spring	Samuel J. Hatch	Vernal, Utah	Irrigation	.5	5	2 S.	25 E.	Uintah	May	21	1906	910			
Birch Creek	John Hutton	Green River, Wyo.	Irrigation	.155	14	3 N.	17 E.	Uintah	Sept.	27	1906	1070			
Bix Spring	A. B. Atwood	Stockmore, Utah	Irrigation	.5	17	1 N.	8 W.	Wasatch	Oct.	23	1906	1108			
Brink Spring	John C. Taylor et al.	Noth, Utah	Stockwatering	.004				Grand	Aug.	20	1906	1016			
Brush Creek	John W. Bascom	Vernal, Utah	Irrigation	3	25	4 S.	22 E.	Uintah	June	18	1906	950			
Bull Pen Springs	Wm. Witbeck	Vernal, Utah	Irrigation	1	34	2 N.	22 E.	Uintah	May	27	1904	1309			
Little Davenport Creek	Wm. Witbeck														
Bush Creek	C. W. Mason et al.	Fort Duchesne, Utah	Mining	5	11	16 S.	8 E.	Uintah	Nov.	23	1905	601			
Cedar Creek	Robert Gordon et al.	Huntington, Utah	Irrigation	15				Emery	Aug.	11	1906	1007			
Cottonwood Spring	Lars Frandsen	Price, Utah	Mining	.3				Emery	Sept.	19	1906	102			
Courthouse Wash	John C. Taylor et al.	Moab, Utah	Stockwatering	.008				Grand	Aug.	20	1906	1018			
Courthouse Wash	John C. Taylor et al.	Moab, Utah	Stockwatering	.012				Grand	Aug.	20	1906	1019			
Crawford Hold Draw	Will C. Clos	Mount Pleasant, Utah	Irrigation		20			Emery	Nov.	20	1903	7004			
Currant Creek	A. M. Murdock	Heber, Utah	Irrigation	5	27	3 S.	9 W.	Wasatch	Oct.	7	1905	573			
Currant Creek	Geo. W. Daybill	Charleston, Utah	Irrigation	5	36	2 S.	10 W.	Wasatch	Oct.	7	1905	5706			
Curran Creek	Wm. G. Elsmore	American Fork, Utah	Irrigation	2	2	4 S.	10 W.	Wasatch	Oct.	11	1905	375			
Curran Creek	Ellis Preston	American Fork, Utah	Irrigation	3	35	2 S.	10 W.	Wasatch	Oct.	31	1905	6125			
Davis Springs	Sarah A. Dickerson	American Fork, Utah	Irrigation	3.33	25	3 S.	9 W.	Wasatch	July	26	1906	938			
Deep Creek	William D. Foster	Salt Lake City, Utah	Irrigation	1	25	12 S.	25 E.	Uintah	May	31	1905	3136			
Deep Creek	John Swenson et al.	Pleasant Grove, Utah	Irrigation	5.5	21	3 S.	9 W.	Wasatch	Oct.	3	1905	5616			
Deep Creek	Simpson Ross et al.	Vernal, Utah	Irrigation	10	4	1 S.	2 E.	Uintah	June	17	1905	3626			
Deep Creek	Raymond J. Walker	Denver, Colo.	Irrigation		20,000	25	1 S.	1 E.	Uintah	June	8	1906	929		

Deep Creek	Raymond J. Walker	Denver, Colo.	Irrigation	25	1 S.	1 E.	Utah	June	8	1906	1930		
Deep Creek	Raymond J. Walker	Denver, Colo.	Irrigation	300	10,000	25	1 S.	1 E.	Utah	June	8	1906	231
Deep Creek	Raymond J. Walker	Denver, Colo.	Irrigation	50	20	2 S.	2 W.	Wasatch	June	8	1906	232	
Dry Gulch Creek	George D. Merkle	Vernal, Utah	Irrigation	4	21	1 S.	1 W.	Wasatch	Dec. 4	2	1905	71G	
Dry Gulch Creek	Lorin C. Caldwell	Vernal, Utah	Irrigation	5	22	2 S.	1 W.	Wasatch	Mar.	2	1906	81G	
Dry Gulch Creek	J. Garrett Holmes	Roosevelt, Utah	Irrigation	2.65	17	2 S.	2 W.	Wasatch	May	7	1906	80G	
Dry Gulch Creek	James Brummitt	Ridgeview, Colo.	Irrigation	3	15	1 S.	1 W.	Wasatch	May	25	1906	91G	
Dry Gulch Creek	George F. Madden	White Rocks, Utah	Irrigation	14	1	3 S.	1 W.	Wasatch	Oct. 22	1906	110G		
Dry Gulch Creek	John Glenn	Vernal, Utah	Irrigation	5.33	12	3 S.	1 W.	Utah	Oct.	11	1906	108G	
Dry Gulch Creek	E. E. Horn	Milton, Utah	Irrigation	50	33	3 S.	2 W.	Wasatch	Oct.	11	1906	109G	
Duchesne River	C. G. Hall	White Rocks, Utah	Irrigation	12	21	3 S.	2 W.	Wasatch	June	19	1905	361G	
Duchesne River	C. G. Hall	White Rocks, Utah	Irrigation	20	36	3 S.	1 W.	Utah	July	3	1905	351G	
Duchesne River	C. G. Hall	White Rocks, Utah	Irrigation	8	24	4 S.	2 E.	Utah	July	3	1905	382G	
Duchesne River	C. G. Hall	White Rocks, Utah	Irrigation	55	22	3 S.	2 W.	Wasatch	July	3	1905	384G	
Duchesne River	C. G. Hall	White Rocks, Utah	Irrigation	20	10	3 S.	2 E.	Utah	July	3	1905	386G	
Duchesne River	C. G. Hall	White Rocks, Utah	Irrigation	45	20	3 S.	1 E.	Utah	July	3	1905	387G	
Duchesne River	C. G. Hall	White Rocks, Utah	Irrigation	32	5	4 S.	3 W.	Wasatch	July	10	1905	395G	
Duchesne River	C. G. Hall	White Rocks, Utah	Irrigation	13	21	3 S.	2 W.	Wasatch	July	10	1905	396G	
Duchesne River	C. G. Hall	White Rocks, Utah	Irrigation	15	1	4 S.	4 W.	Wasatch	July	10	1905	397G	
Duchesne River	C. G. Hall	White Rocks, Utah	Irrigation	3	24	3 S.	5 W.	Wasatch	July	20	1905	411G	
Duchesne River	C. G. Hall	White Rocks, Utah	Irrigation	22	24	1 S.	8 W.	Wasatch	July	20	1905	412G	
Duchesne River	C. G. Hall	White Rocks, Utah	Irrigation	7	1	4 S.	5 W.	Wasatch	July	20	1905	413G	
Duchesne River	C. G. Hall	White Rocks, Utah	Irrigation	8	36	3 S.	5 W.	Wasatch	July	20	1905	414G	
Duchesne River	C. G. Hall	White Rocks, Utah	Irrigation	5	10	1 S.	5 W.	Wasatch	July	20	1905	415G	
Duchesne River	Geo. M. McConaughy & Francis R. Hardy	Salt Lake City, Utah	Irrigation	476	14	1 S.	8 W.	Wasatch	Aug.	3	1905	421G	
Duchesne River	E. S. Kershaw	American Fork, Utah	Irrigation	46	19	2 S.	5 W.	Wasatch	Aug.	14	1906	428G	
Duchesne River	E. L. Nunn	Provo, Utah	Power	1,000	8	2 N.	9 W.	Wasatch	Aug.	18	1905	431G	
Duchesne River	Wasatch Developm't Co.	Heber City, Utah	Power	200	36	3 S.	4 W.	Wasatch	Aug.	19	1905	430G	
Duchesne River	Wasatch Developm't Co.	Heber City, Utah	Power	200	11	3 S.	5 W.	Wasatch	Aug.	19	1905	437G	
Duchesne River	Wasatch Developm't Co.	Heber, Utah	Power	200	11	3 S.	5 W.	Wasatch	Aug.	26	1905	431G	
Duchesne River	Duchesne Irrigat'n Co.	Heber, Utah	Irrigation	80	36	3 S.	3 W.	Wasatch	Aug.	26	1905	422G	
Duchesne River	Duchesne Irrigat'n Co.	Heber, Utah	Irrigation	80	36	3 S.	3 W.	Wasatch	Aug.	26	1905	433G	

APPLICATIONS TO APPROPRIATE WATER FROM THE GREEN RIVER DRAINAGE AREA.—Continued.

Source of Supply.	Name of Applicant.	Postoffice Address of Applicant.	Use of Water.	Water Applied for in		Point of Diversion.		Location of		Date of Priority.	Appli- cation No.	
				Cu. feet per sec.	Acre ft. per sec.	Sec.	Tp.	Range.	County.	Mo.	Da.	Yr.
Duchesne River	Rocky Point Irrl. Co.	Heber, Utah	Irrigation	10.8	12	3 S.	5 W.	Wasatch	Aug.	28	1905	451G
Duchesne River	Wasatch Developm't Co.	Heber, Utah	Irrigation	10.66	11	3 S.	5 W.	Wasatch	Aug.	28	1905	455G
Duchesne River	Rocky Point Irrl. Co.	Heber, Utah	Irrigation	29	6	4 S.	4 W.	Wasatch	Aug.	28	1905	456G
Duchesne River	Brigham Clezz	Salt Lake City, Utah	Irrigation	300	25	1 S.	8 W.	Wasatch	Aug.	29	1905	461
Duchesne River	Dry Gulch Irrl. Co.	Heber, Utah	Irrigation	160	36	3 S.	4 W.	Wasatch	Sept.	1	1905	465G
Duchesne River	Roy Daniels	Provo, Utah	Irrigation	2.3	24	3 S.	5 W.	Wasatch	Sept.	1	1905	480G
Duchesne River	Sam H. Jefferson et al.	Provo, Utah	Irrigation	8	12	3 S.	5 W.	Wasatch	Sept.	1	1905	471G
Duchesne River	Bastide Grabett et al.	Redd'l M. Colo.	Irrigation	4	28	2 S.	5 W.	Wasatch	Sept.	6	1905	483G
Duchesne River	Shaw J. Kelley	Salt Lake City, Utah	Irrigation	2.5	28	2 S.	5 W.	Wasatch	Sept.	7	1905	457
Duchesne River	F. M. Lyman, Jr.	Salt Lake City, Utah	Power	2,000	19	2 S.	5 W.	Wasatch	Sept.	8	1905	484G
Duchesne River	F. M. Lyman, Jr.	Salt Lake City, Utah	Power	3,000	22	3 S.	2 W.	Wasatch	Sept.	8	1905	480G
Duchesne River	Enoch Brown	Salt Lake City, Utah	Power	1,000	18	1 N.	5 W.	Wasatch	Sept.	8	1905	490G
Duchesne River	Ollie C. Hand	Hoytsville, Utah	Irrigation	10	29	2 S.	5 W.	Wasatch	Sept.	11	1905	496G
Duchesne River	Alma W. Wagstaff	Milton, Utah	Irrigation	2.28	4	2 S.	7 W.	Wasatch	Sept.	11	1905	498G
Duchesne River	Charleston, Utah	Pleasant Grove, Utah	Irrigation	3	13	2 S.	7 W.	Wasatch	Sept.	14	1905	506G
Duchesne River	Bernice Larson	Theodore, Utah	Irrigation	3	25	1 S.	7 W.	Wasatch	Sept.	16	1905	511
Duchesne River	F. C. Moyle	Salt Lake City, Utah	Irrigation	2.28	11	2 S.	7 W.	Wasatch	Sept.	16	1905	512G
Duchesne River	Raymond C. Naylor	Salt Lake City, Utah	Irrigation	3	11	3 S.	5 W.	Wasatch	Sept.	18	1905	514G
Duchesne River	P. L. Young	Salt Lake City, Utah	Irrigation	3	28	2 S.	5 W.	Wasatch	Sept.	18	1905	524G
Duchesne River	North M. Baldwin	Vernal, Utah	Irrigation	3	5	4 S.	3 W.	Wasatch	Sept.	18	1905	527G
Duchesne River	J. T. Raleigh	Salt Lake City, Utah	Irrigation	2	12	3 S.	5 W.	Wasatch	Sept.	22	1905	540G
Duchesne River	Dry Gulch Irrl. Co.	Heber, Utah	Irrigation	1.8	30	1 N.	8 W.	Wasatch	Sept.	22	1905	551
Duchesne River	Wasatch Develop. Co.	Heber, Utah	Irrigation	230	1	4 S.	4 W.	Wasatch	Oct.	7	1905	571
Duchesne River	F. A. White	Woodland, Utah	Irrigation	272	6	4 S.	2 W.	Wasatch	Oct.	7	1905	575G
Duchesne River	Courtland A. Starr	Springville, Utah	Irrigation	3	30	1 S.	7 W.	Wasatch	Oct.	9	1905	555G
Duchesne River	J. B. Hill & John Eair	Vernal, Utah	Irrigation	3	32	4 S.	4 W.	Wasatch	Oct.	10	1905	555G
Duchesne River			Irrigation	4	35	2 S.	5 W.	Wasatch	Oct.	16	1905	600G

Duchesne River	Juris L. Bennett	Grand Junction, Colo.	Irrigation	2	13	3 S.	5 W.	Wasatch	Oct.	16	1905	602	
Duchesne River	Wm. McQueeney	Park City, Utah	Irrigation	3	11	3 S.	5 W.	Wasatch	Oct.	27	1905	603	
Duchesne River	Arthur F. Buckley	Provo, Utah	Irrigation	2.33	20	1 N.	9 W.	Wasatch	Oct.	28	1905	605	
Duchesne River	Jonathan Buckley	Provo, Utah	Irrigation	2.06	20	1 N.	9 W.	Wasatch	Oct.	28	1905	605	
Duchesne River	Warren A. Colton	Vernal, Utah	Irrigation	4	25	1 S.	S.W.	Wasatch	Nov.	13	1905	674 G	
Duchesne River	Harry N. Ventch	Vernal, Utah	Irrigation	2	5	4 S.	3 W.	Wasatch	Nov.	17	1905	680	
Duchesne River	Jesse B. Peterson	Theodore, Utah	Irrigation	1.14	11	2 S.	7 W.	Wasatch	Nov.	20	1905	687 A	
Duchesne River	Ethelbert White	Murray, Utah	Irrigation	2	30	1 S.	7 W.	Wasatch	Nov.	20	1905	689 A	
Duchesne River	Arthur W. Maxwell	Pocatello, Utah	Irrigation	3	25	1 S.	8 W.	Wasatch	Nov.	20	1905	690 A	
Duchesne River	Ernest V. Sader	Salt Lake City, Utah	Irrigation	3	22	1 S.	7 W.	Wasatch	Dec.	8	1905	717	
Duchesne River	Geo. A. Lyman et al.	Vernal, Utah	Irrigation	4	19	3 S.	2 E.	Utarah	Jan.	6	1906	720 G	
Duchesne River	James A. Maxwell	Theodore, Utah	Irrigation	2.06	14	1 S.	8 W.	Wasatch	Feb.	28	1906	716	
Duchesne River	Lawrence Andin	Arapahoe, Colorado	Irrigation	2	40,775	1	4 W.	Wasatch	Mar.	5	1906	721 G	
Duchesne River	Francis R. Hardy	Salt Lake City, Utah	Irrigation	3	18	1 N.	8 W.	Wasatch	Mar.	6	1906	825	
Duchesne River	Francis R. Hardy	Salt Lake City, Utah	Irrigation	—	7,826	19	2 S.	5 W.	Wasatch	Mar.	6	1906	826
Duchesne River	Francis R. Hardy	Salt Lake City, Utah	Irrigation	—	22,309	1	4 S.	5 W.	Wasatch	Mar.	6	1906	827 B
Duchesne River	Wasatch Development Co.	Heber, Utah	Power	200	3	4 S.	3 E.	Wasatch	Mar.	11	1906	823	
Duchesne River	James W. Parker	Vernal, Utah	Irrigation	2.28	6	4 S.	3 W.	Wasatch	Mar.	15	1906	825	
Duchesne River	Ethan L. Brown	Charleston, Utah	Irrigation	1.33	12	2 S.	7 W.	Wasatch	Mar.	22	1906	841 C	
Duchesne River	Wasatch Development Co.	Iruber, Utah	Power	200	6	4 S.	4 W.	Wasatch	Mar.	22	1906	842	
Duchesne River	J. A. Maxwell	Pewon, Utah	Irrigation	12	11	1 S.	8 W.	Wasatch	May	21	1906	911	
Duchesne River	Carey T. Biggs et al.	Maryon, Utah	Irrigation	1.33	8	4 S.	3 W.	Wasatch	May	28	1906	916	
Duchesne River	Amos Johnson et al.	Maryon, Utah	Irrigation	9	16	3 S.	2 W.	Wasatch	May	10	1906	937	
Duchesne River	Lionel J. Hammond	Theodore, Utah	Irrigation	17	13	3 S.	5 W.	Wasatch	June	1	1906	922	
Duchesne River	J. C. Hahn et al.	Maryon, Utah	Irrigation	320	6	4 S.	4 W.	Wasatch	June	5	1906	923	
Duchesne River	Bremick Ditch Co.	Theodore, Utah	Irrigation	5.7	21	2 S.	5 W.	Wasatch	Nov.	20	1905	685	
Duchesne River	Aspin Canal Co.	Theodore, Utah	Irrigation	3.00	17	4 S.	3 W.	Wasatch	Aug.	6	1906	909	
Duchesne River	Brown Ditch Co.	Theodore, Utah	Irrigation	3.33	11	2 S.	7 W.	Wasatch	Nov.	6	1906	1121	
Duchesne River	Wash Ditch Co.	Theodore, Utah	Irrigation	5.33	19	2 S.	6 W.	Wasatch	Nov.	2	1906	1118	
Duchesne River	Pioneer Canal Co.	Theodore, Utah	Irrigation	20	28	2 S.	5 W.	Wasatch	Sept.	20	1906	1071	
Duchesne River	William B. Russell	Kamas, Utah	Irrigation	1.33	20	1 S.	7 W.	Wasatch	Sept.	4	1906	1042	
Duchesne River	Hugo F. Liska	Maryon, Utah	Irrigation	2.5	16	4 S.	3 W.	Wasatch	Sept.	4	1906	1048	
Duchesne River	B. S. Kershaw	American Fork, Utah	Irrigation	3.2	24	1 S.	8 W.	Wasatch	June	29	1906	967	
East Trough Spring	Andrew O. Nelson	Linwood, Utah	Domestic	—	16	2 N.	21 E.	Utarah	Sept.	27	1906	1072	

APPLICATIONS TO APPROPRIATE WATER FROM THE GREEN RIVER DRAINAGE-AREA.-Col. d

Source of Supply.	Name of Applicant.	Postoffice Address of Applicant.	Use of Water.	Water Ap- plied for in			Point of Diversion.			Date of Priority Appli- cation No.			
				Cu. feet per sec.	Acre ft. per sec.	Sec.	Tp.	Range.	County.	Mo.	Da.	Yr.	
Erickson Flat Creek	Cleveland Canal & Agri- culture Co.	Cleveland, Utah	Irrigation -----	40	17	14 S.	6 E.	Emery	Oct.	8	1903	180	
Lake Creek	William D. Foster	Salt Lake City, Utah	Irrigation -----	3	13	12 S.	25 E.	Uintah	May	31	1903	3440	
Evacuation Creek	John M. Reed	Woodland, Utah	Irrigation -----	2	7	1 S.	7 W.	Wasatch	Aug.	21	1906	1021	
Farm Creek	John C. Lemon	Ferron, Utah	Irrigation -----	6	8	20 S.	7 E.	Emery	Feb.	18	1903	2410	
Ferron Creek	Rock M. Pope	Salt Lake City, Utah	Irrigation -----	.55	31	5 S.	7 W.	Wasatch	Feb.	5	1906	732	
Fork Spring	Thomas F. Holdaway	Vernal, Utah	Irrigation -----	140	33	8 S.	22 E.	Uintah	Feb.	1	1906	784	
Gilsonite Wash	Rod McDonald	Green River, Wyo.	Irrigation -----	10	3	22 S.	16 E.	Grand	Nov.	2	1906	1115	
Green River	L. B. Dewey	Salt Lake City, Utah	Power -----	1,700	10	20 S.	16 E.	Emery	May	3	1904	1251	
Green River	Frank Cook	Green River, Utah	Power -----	975	16	20 S.	16 E.	Emery	Oct.	3	1904	2026	
Green River	Frank Cook	Green River, Utah	Irrigation -----	75	16	20 S.	16 E.	Emery	Oct.	8	1904	2000	
Green River	O.S. Buell & W.B. Sealte	Provo, Utah	Power -----	2,500	36	10 S.	18 E.	Carbon	Dec.	8	1904	211	
Green River	Guy Sterling	Salt Lake City, Utah	Power -----	2,370	8	16 S.	16 E.	Grand	Dec.	21	1904	1250	
Green River	Guy Sterling	Salt Lake City, Utah	Power -----	2,450	200,000	8	16 S.	16 E.	Grand	Aug.	9	1906	735
Green River	W. P. Hill	Jennings, Kansas	Irrigation -----	4	8	20 S.	16 E.	Grand	Oct.	26	1906	6516	
Green River	T. B. Beatty	Salt Lake City, Utah	Power -----	2,500	8	6 S.	22 E.	Emery	Dec.	13	1905	7216	
Green River	Geo. A. Skaggs	Vernal, Utah	Irrigation -----	4	18	2 N.	24 E.	Uintah	Dec.	19	1905	7326	
Green River	Ed. F. Harmston et al.	Vernal, Utah	Irrigation -----	250	16	20 S.	16 E.	Grand	Jan.	2	1906	7496	
Green River	E. T. Merritt	Green River	Irrigation -----	200	17	20 S.	16 E.	Emery	Feb.	8	1906	735	
Green River	E. T. Merritt	Green River, Utah	Power -----	10,000	17	20 S.	16 E.	Emery	Mar.	7	1906	826	
Green River	J. W. Sawyer et al.	Elgin, Utah	Irrigation -----	5	17	20 S.	16 D.	Grand	Mar.	20	1906	829	
Green River	James N. Powers	Salt Lake City, Utah	Irrigation -----	25	3	21 S.	16 E.	Grand	July	17	1906	970	
Huntington Creek	W. I. English	Elgin, Utah	Irrigation -----	270	10	20 S.	16 E.	Grand	Nov.	20	1906	1129	
Huntington River	Huntington Canal & Reservoir Co.	Huntington, Utah	Irrigation -----	7,000	8 E.	Emery	Sept.	25	1906	5336			
Huntington River	Desert Lake Res.&Ir.Co.	Deseret Lake, Utah	Irrigation -----	3,650	15	17 S.	Emery	April	18	1906	871		

Indian Canyon Creek	Ormel Wilkins	Vernal, Utah	Irrigation	---	2.66	100,000	35	5 S.	7 W.	Wasatch	Sept.	6	1905	481G
Indian Creek	United States	Salt Lake City, Utah	Irrigation	---			34	9 S.	3 E.	Wasatch	Nov.	26	1904	73G
Current Creek	United States	Price, Utah	Irrigation	---	2		11	5 S.	6 W.	Wasatch	Sept.	1	1905	4707
Indian Creek	C. C. Clapper	Vernal, Utah	Irrigation	---	1		25	2 N.	23 E.	Uintah	May	27	1904	188G
Jackson Creek	John H. Reader	Salt Lake City, Utah	Irrigation	---	125		17	4 S.	6 W.	Wasatch	Sept.	28	1905	484h
Lakes	F. P. Burrall	Theodore, Utah	Irrigation	---	125		6	6 W.	Wasatch	Sept.	31	1906	105T	
Lake Canyon	John B. Oliver	Salt Lake City, Utah	Irrigation	---	125		31	5 S.	7 W.	Wasatch	Sept.	28	1905	415
Lake Canyon	Rock M. Pope	Milton, Utah	Irrigation	---	20		29	2 S.	3 W.	Wasatch	April	20	1906	883
Lake Fork	E. K. Purdy	Carterville, Mo.	Irrigation	---	2.66	15,000	27	1 S.	4 W.	Wasatch	June	16	1906	917
Lake Fork	Virginia Hill	Salt Lake City, Utah	Power	---			18	2 N.	5 W.	Wasatch	Aug.	23	1906	1020
Lake Fork	Shoshone Power Co.	Salt Lake City, Utah	Irrigation	---	258		16	1 S.	4 W.	Wasatch	Aug.	10	1906	484G
Lake Fork Creek	Albert N. Jarvis	White Rocks, Utah	Irrigation	---	100		32	1 N.	4 W.	Wasatch	June	15	1905	239G
Lake Fork Creek	C. G. Hall	White Rocks, Utah	Irrigation	---	143		32	1 N.	4 W.	Wasatch	June	15	1905	390G
Lake Fork Creek	C. G. Hall	White Rocks, Utah	Irrigation	---	110		33	2 S.	3 W.	Wasatch	June	19	1905	390G
Lake Fork Creek	C. G. Hall	White Rocks, Utah	Irrigation	---	20		32	1 N.	4 W.	Wasatch	July	15	1905	402G
Lake Fork Creek	C. G. Hall	White Rocks, Utah	Irrigation	---	10		12	3 S.	3 W.	Wasatch	July	13	1905	403G
Lake Fork Creek	Dry Gulch Irrl. Co.	Vernal, Utah	Irrigation	---	17 <sup>t</sup>		16	1 S.	4 W.	Wasatch	July	31	1905	110G
Lake Fork Creek	Dry Gulch Irrl. Co.	Vernal, Utah	Irrigation	---	69		22	1 S.	4 W.	Wasatch	July	31	1905	110G
Lake Fork Creek	Dry Gulch Irrl. Co.	Heber, Utah	Irrigation	---	54.5		16	1 S.	4 W.	Wasatch	Aug.	20	1905	450
Lake Fork Creek	& Development Co.	Pueblo, Colo.	Irrigation	---	200		18	3 S.	2 W.	Wasatch	Aug.	6	1906	1000
Lake Fork Creek	Dry Gulch Irrl. Co.	Heber, Utah	Irrigation	---	35		27	1 S.	4 W.	Wasatch	Sept.	1	1905	464G
Lake Fork Creek	Howard C. Means	White Rocks, Utah	Irrigation	---	2		2	3 S.	3 W.	Wasatch	Sept.	8	1905	481G
Lake Fork Creek	Moroni Fisher	Vernal, Utah	Irrigation	---	2		9	1 S.	4 W.	Wasatch	Oct.	31	1905	611G
Lake Fork Creek	Dry Gulch Irrl. Co.	Vernal, Utah	Irrigation	---	50,000		32	1 N.	4 W.	Wasatch	Nov.	14	1905	6744
Lake Fork Creek	Dry Gulch Irrl. Co.	Vernal, Utah	Irrigation	---	10,000		8	1 S.	4 W.	Wasatch	Nov.	14	1905	6740
Lake Fork Creek	Dry Gulch Irrl. Co.	Vernal, Utah	Irrigation	---	15,000		1 S.	4 W.	Wasatch	Nov.	14	1905	6740	
Lake Fork Creek	Dry Gulch Irrl. Co.	Vernal, Utah	Irrigation	---	173		16	1 S.	4 W.	Wasatch	Dec.	15	1905	720
Lake Fork Creek	Dry Gulch Irrl. Co.	Vernal, Utah	Irrigation	---	24		22	1 S.	4 W.	Wasatch	Dec.	15	1905	720
Lake Fork Creek	Melvin Pitt et al.	Vernal, Utah	Irrigation	---	7		27	1 S.	3 W.	Wasatch	Dec.	26	1905	707G
Lake Fork Creek	Wm. L. Cook	Milton, Utah	Irrigation	---	1		3	3 S.	2 W.	Wasatch	May	14	1906	901
Lake Fork Creek	C. M. Edwards Jr. et al.	Milton, Utah	Irrigation	---	12.5		18	3 S.	2 W.	Wasatch	May	28	1906	917
Lung Hollow	Chris N. Peterson	Ferron, Utah	Stockwatering	---	9					Emery	Nov.	29	1905	702

APPLICATIONS TO APPROPRIATE WATER FROM THE GREEN RIVER DRAINAGE-AREA.—Continued.

Source of Supply.	Name of Applicant.	Postoffice Address of Applicant.	Use of Water.	Water Applied for in				Location of Point of Diversion.				Date of Priority.	Application No.	
				Cu. feet per sec.	Acre ft. per sec.	Sec.	Tp.	Range.	County.	Mo.	Da.	Yr.		
Limestone Spring	John S. Hacking	Vernal, Utah	Irrigation -----	2	—	18	1 S.	23 E.	Utah	Feb.	27	1906	SIRG	
Long Spring	W. H. Werber	Salt Lake City, Utah	Mining -----	2	—	34	13 S.	14 E.	Carbon	Oct.	10	1905	575G	
Mackey Flat Wash	Joseph Swasey	Ferron, Utah	Stockwatering -----	—	40	—	—	—	Emery	Nov.	20	1905	701	
Mammoth Draw	Earl H. Seely	Mount Pleasant, Utah	Irrigation -----	—	7	—	—	—	Emery	April	18	1906	6847	
Miller Creek	Desert Lake Res.&Ir.Co.	Desert Lake, Utah	Irrigation -----	—	3,650	28	15 S.	9 E.	Carbon	Dec.	13	1905	720G	
Monto's Creek	Alfred Shupp	Vernal, Utah	Irrigation -----	1	.02	20	2 S.	1 E.	Uintah	Sept.	27	1906	1071	
Mud Spring	Laura S. Nelson	Linwood, Utah	Domestic -----	—	.5	5	2 N.	21 E.	Uintah	Oct.	22	1906	1107	
Nephi Spring	George F. Madden	White Rocks, Utah	Irrigation -----	—	.5	22	1 S.	1 W.	Wasatch	Sept.	17	1906	1058	
Pot Creek	Park Livestock Co.	Rock Springs, Wyo.	Irrigation -----	110	—	24	1 S.	25 E.	Uintah	Aug.	30	1906	1025	
Price River	R. W. Crockett	Price, Utah	Irrigation -----	—	27,000	1	14 S.	9 E.	Carbon	Aug.	30	1906	1035	
Price River	R. W. Crockett	Price, Utah	Irrigation -----	150	—	1	14 S.	9 E.	Carbon	Aug.	30	1906	1035	
Range Creek	Fred Blackburn, et al.	Wellington, Utah	Irrigation -----	—	8	16	15 S.	1 E.	Carbon	June	13	1906	912	
Range Creek	Utah Fuel Co.	Salt Lake City, Utah	Mining -----	—	.51	36	14 S.	14 E.	Carbon	May	20	1905	584G	
Range Creek	Utah Fuel Co.	Salt Lake City, Utah	Domestic -----	—	.193	36	14 S.	14 E.	Carbon	May	20	1905	227G	
Range Creek	Utah Fuel Co.	Salt Lake City, Utah	Irrigation -----	—	.994	36	14 S.	14 E.	Carbon	May	20	1905	685G	
Red Creek	William D. Foster	Salt Lake City, Utah	Irrigation -----	10	—	36	14 S.	14 E.	Carbon	June	26	1905	376G	
Red Creek	D. A. Adamson	American Fork, Utah	Irrigation -----	—	3	12	2 S.	9 W.	Wasatch	Oct.	5	1905	561G	
Red Creek	Wm. Kershaw	American Fork, Utah	Irrigation -----	—	3	18	2 S.	8 W.	Wasatch	Oct.	11	1905	589G	
Red Holes	William H. Kershaw	American Fork, Utah	Irrigation -----	—	2.64	24	2 S.	9 W.	Wasatch	Nov.	7	1906	661G	
Road Wash	Sinbad Res. Ass'n	Castle Dale, Utah	Stockwatering -----	—	—	10	—	—	Emery	Jan.	2	1906	733	
Rods Valley Wash	Stewart R. Seely	Mount Pleasant, Utah	Irrigation -----	—	—	12	—	—	Emery	Feb.	5	1906	730G	
Rock Creek	John A. Seely	Mount Pleasant, Utah	Irrigation -----	—	—	10	—	—	Emery	Feb.	5	1906	731G	
Rock Creek	L. L. Nunn	Provo, Utah	Power -----	—	—	35,720	33	3 N.	Wasatch	Sept.	20	1905	523	
Rock Creek	L. L. Nunn	Provo, Utah	Power -----	100	—	8,000	36	4 N.	Wasatch	Oct.	2	1905	561G	
Rock Creek	Francis R. Hardy	Salt Lake City, Utah	Irrigation -----	—	—	7,080	13	1 S.	6 W.	Wasatch	Mar.	6	1906	825G
Rock Creek	L. L. Nunn	Provo, Utah	Irrigation -----	—	—	5,760	28	1 S.	6 W.	Wasatch	May	24	1906	921b
Rock Creek	L. L. Nunn	Provo, Utah	Irrigation -----	—	—	4,800	33	1 S.	6 W.	Wasatch	May	24	1906	921a

Rock Creek	James H. Mease	Vernal, Utah	Irrigation ----	230	4,400	23	2 N.	7 W.	Wasatch	June 3	1905	3186
Rock Creek	L. L. Nunn	Provo, Utah	Power -----			11	1 N.	S.W.	Wasatch	Aug. 18	1905	4344
Rock Creek	L. L. Nunn	Provo, Utah	Power -----		5,760	22	3 S.	4 W.	Wasatch	Sept. 16	1905	4344
Rock Creek	J. L. Gibson	Salt Lake City, Utah	Irrigation -----	32		29	2 N.	6 W.	Wasatch	Oct. 15	1906	5166
Rock Creek	Blue Beach Irrl. Co.	Theodore, Utah	Irrigation -----	130		19	2 S.	5 W.	Wasatch	Oct. 15	1906	1100
Rock Creek	Rock M. Pope	Salt Lake City, Utah	Irrigation -----	.28		15	4 S.	7 W.	Wasatch	Aug. 28	1905	4483
Sam's Canyon	V. C. Ward et al.	Salt Lake City, Utah	Irrigation -----	150	150,000	20	21 S.	14 E.	Emery	Sept. 18	1906	1071
San Rafael River	D. M. Landreth	Green River, Utah	Irrigation -----	5.25	25,000	21	21 S.	14 E.	Emery	Oct. 12	1906	1032
San Rafael River	Joseph D. Harris et al.	Heber, Utah	Irrigation -----	2.3		35	1 S.	9 W.	Wasatch	Nov. 20	1905	686
Sand Creek	Lemuel Thompson	Annabella, Utah	Irrigation -----	5		11	5 S.	4 W.	Wasatch	Oct. 10	1905	581
Sawyer's Canyon	Heber Carroll	Measer, Utah	Irrigation -----	.5		34	5 S.	5 W.	Uintah	Aur. 19	1905	441
Sinks In Dry Fork	Sam S. Porter	Salt Lake City, Utah	Irrigation -----	2		18	4 S.	10 W.	Wasatch	Feb. 7	1906	7263
Sowers Spring	William Kirk	Lindon, Utah	Irrigation -----	1		14	4 S.	7 W.	Wasatch	Sept. 14	1905	5086
Strawberry River	John T. Pope	Vernal, Utah	Irrigation -----	2.06		11	4 S.	1 W.	Wasatch	Sept. 19	1905	3940
Strawberry River	J. A. Halstead	Theodore, Utah	Irrigation -----	2.25		28	3 S.	5 W.	Wasatch	Aug. 18	1906	1014
Strawberry River	Granstrus E. Pulley	Walsenburg, Utah	Irrigation -----	2.25		11	4 S.	6 W.	Wasatch	Dec. 14	1905	7236
Strawberry River	L. J. Fairbanks	Merton, Utah	Irrigation -----	2.25		35	3 S.	5 W.	Wasatch	Dec. 26	1905	7306
Strawberry River	Albert Bjornson	Vernal, Utah	Irrigation -----	2.25		11	4 S.	6 W.	Wasatch	Dec. 20	1905	7456
Strawberry River	Has. A. Mott, Sr.	Vernal, Utah	Irrigation -----	2.66		14	4 S.	7 W.	Wasatch	Jan. 30	1906	7746
Strawberry River	R. M. Pope	Salt Lake City, Utah	Irrigation -----	1		21	4 S.	8 W.	Wasatch	Feb. 3	1906	7846
Strawberry River	Charles Simmons	Theodore, Utah	Irrigation -----	2		18	4 S.	10 W.	Wasatch	Mar. 10	1906	8896
Strawberry River	James Kirk	Linden, Utah	Irrigation -----	2		18	4 S.	10 W.	Wasatch	April 23	1906	876
Strawberry River	John W. Rockbill	Spanish Fork, Utah	Irrigation -----	2.5		20	4 S.	22 E.	Uintah	Sept. 4	1906	1012
Spring Creek	John H. Reader	Vernal, Utah	Irrigation -----	2		32	3 S.	10 W.	Wasatch	Oct. 31	1905	6436
Soldier Creek	Thomas E. Parker	American Fork, Utah	Irrigation -----	3		31	20 S.	15 E.	Grand	Nov. 28	1906	1121
Spring	F. L. Breckon	Eaton, Utah	Miscellaneous -----	.5		29	4 S.	3 W.	Wasatch	Nov. 2	1905	6546
Spring	Thas. Wallace et al.	Vernal, Utah	Irrigation -----	5.5					Grand	Dec. 20	1906	1020
Spring	John C. Taylor et al.	Moab, Utah	Stockwatering	.008					Wasatch	Oct. 24	1906	1111
Spring Branch	Warren A. Colton	Vernal, Utah	Irrigation -----	1.6		30	1 S.	7 W.	Wasatch	Oct. 21	1905	624
Spring Sam's Canyon	Joseph R. Murdoch	Harter, Utah	Irrigation -----	5.23		6	5 S.	7 W.	Wasatch	Oct. 21	1905	6216
Spring Sam's Canyon	Joseph R. Murdoch	Harter, Utah	Irrigation -----	2.23		32	4 S.	7 W.	Wasatch	Feb. 3	1906	7566
Spring in Bore Hollow	Tock M. Pope	Salt Lake City, Utah	Irrigation -----	.3		13	4 S.	7 W.	Wasatch	Feb. 3	1906	7576
Spring in Sam's Canyon	Tock M. Pope	Salt Lake City, Utah	Irrigation -----	1		15	4 S.	7 W.	Wasatch	Nov. 15	1906	1127
Spring Springs	James W. Lott et al.	Thodore, Utah	Domestic -----	.5		22	3 S.	4 W.	Wasatch			

APPLICATIONS TO APPROPRIATE WATER FROM THE GREEN RIVER DRAINAGE-AREA.—Continued.

Source of Supply.	Name of Applicant.	Postoffice Address of Applicant.	Use of Water.	Location of Point of Diversion.			Date of Priority.		
				Cu. feet per sec.	Acre ft. per sec.	Ty. Sec.	Range.	County.	Mo. Yr.
Springs	F. P. Burrall	Salt Lake City, Utah	Irrigation	.125	12	5 S.	7 W.	Wasatch	Aug. 28
Springs	Henry C. Goodman	Mobay, Utah	Stockwatering	.75	1	31 S.	22 E.	Salt Juan	Jan. 3
Springs	R. M. Pope	Salt Lake City, Utah	Irrigation	.032	5&6	5 S.	6 W.	Wasatch	Feb. 5
Springs	R. M. Pope	Salt Lake City, Utah	Irrigation	.032	5	5 S.	6 W.	Wasatch	Feb. 5
Springs in Bacon Bind & Bouzier's Canyon	A. H. Poulin et al.	Mt. Pleasant, Utah	Irrigation	.05	36	15 S.	4 E.	Emery	Sept. 20
Springs on Soldier Crk	S. M. Woolley	American Fork, Utah	Irrigation	3	30	15 S.	5 E.	Wasatch	Oct. 11
Taylor Flat	David R. Seely	Castle Dale, Utah	Stockwatering	6	29	3 S.	10 W.	Emery	Nov. 20
Ten Mile Wash	Frank Cook	Green River, Utah	Irrigation	.007	35	21 S.	20 E.	Grand	July 8
Tescher Seep	John C. Taylor et al.	Mobay, Utah	Stockwatering	.007				Grand	Aug. 20
Toby Spring	Pittsburgh-Salt Lake Oil Company	Salt Lake City, Utah	Mining	.5	21	5 S.	5 W.	Wasatch	Oct. 7
Tuscar Canyon	Walter G. English	Eglin, Utah	Irrigation	1,600	12	20 S.	16 E.	Grand	Oct. 14
Uintah River	Less O'Driscoll	White Rocks, Utah	Irrigation	5.33	6	1 N.	1 E.	Uintah	Oct. 13
Uintah River	William J. Hunting	Pooroselt, Utah	Irrigation	2.5	24	1 N.	1 W.	Uintah	Oct. 12
Uintah River	Uinta River Irr. Co.	Fort Duchesne, Utah	Irrigation	—	23	1 S.	1 E.	Uintah	April 19
Uintah River	C. G. Hall	White Rocks, Utah	Irrigation	—	18	1 S.	1 E.	Uintah	June 15
Uintah River	C. G. Hall	White Rocks, Utah	Irrigation	—	35	2 S.	1 E.	Uintah	July 3
Uintah River	C. G. Hall	White Rocks, Utah	Irrigation	—	35	2 S.	1 E.	Uintah	July 3
Uintah River	C. G. Hall	White Rocks, Utah	Irrigation	—	35	2 S.	1 E.	Uintah	July 3
Uintah River	Ernest H. Wilson	Vernal, Utah	Irrigation	142.5	10	1 N.	1 W.	Uintah	June 15
Uintah River	United States	Fort Duchesne, Utah	Irrigation	24	18	1 S.	1 E.	Uintah	Sept. 6
Uintah River	United States	Fort Duchesne, Utah	Irrigation	—	15	2 S.	1 E.	Uintah	Sept. 16
Uintah River	United States	Port Duchesne, Utah	Domestic	—	11	2 S.	1 E.	Uintah	Sept. 16
Uintah River	Thomas Durigan	Denver, Colo.	Domestic	2	24	2 S.	1 E.	Uintah	Sept. 16
Cintah River	Howard Naisbit	Odgen, Utah	Irrigation	—	31	1 N.	1 E.	Uintah	Sept. 27
Cintah River	Silas Wright Chaney	Vernal, Utah	Irrigation	—	17	1 S.	1 E.	Uintah	Sept. 29
Cintah River			Irrigation	—	7	27	1 S.	1 E.	Sept. 14



## APPLICATIONS TO APPROPRIATE WATER FROM THE GREEN RIVER DRAINAGE-AREA.—Continued.

Source of Supply	Name of Applicant	Postoffice Address of Applicant	Use of Water	Location of Point of Diversion.			Date of Priority, Appli- cation No.		
				Water Ap- plied for in	Cu. feet per sec.	Tp. Sec.	Mo.	Da.	Yr.
White River	C. G. Hall	White Rocks, Utah	Irrigation	62	7	9 S.	22 E.	Untab	Oct. 9 1905
White River	C. G. Hall	White Rocks, Utah	Irrigation	15	4	9 S.	21 E.	Untab	Dec. 5 1905
White Rock Creek	Worland E. Webb	Meaderville, Mont.	Irrigation	3	5	1 S.	1 E.	Untab	May 15 1906
White Rock Creek	Edward E. Jenkins	Salt Lake City, Utah	Irrigation	4	23	1 S.	1 E.	Untab	June 2 1906
White Rocks River	C. G. Hall	White Rocks, Utah	Irrigation	105	4	1 S.	1 E.	Untab	June 15 1905
White Rocks River	C. G. Hall	White Rocks, Utah	Irrigation	32	19	2 N.	1 E.	Untab	June 15 1905
White Rocks River	C. G. Hall	White Rocks, Utah	Irrigation	75	19	2 N.	1 E.	Untab	June 15 1905
White Rocks River	C. G. Hall	White Rocks, Utah	Irrigation	50	17	1 N.	1 E.	Untab	June 19 1905
White Rock River	Patrick J. McGeeny et al.	Vernal, Utah	Irrigation	4	14	1 S.	1 E.	Untab	Sept. 6 1905
White Rocks River	Croyden Glassbrenner	Vernal, Utah	Irrigation	2	23	1 S.	1 E.	Untab	Oct. 21 1905
White Rocks River	Christian Johnson	Vernal, Utah	Irrigation	1.8	5	1 S.	1 E.	Untab	Oct. 28 1905
White Rocks River	Fred H. Neumyer	Fort Duchesne, Utah	Irrigation	2.66	4	1 S.	1 E.	Untab	Feb. 3 1906
Wilson Creek	John Glenn	Vernal, Utah	Irrigation	4	32	2 S.	1 E.	Untab	Oct. 9 1906
Wilson Creek	Ernest H. Wilson	Vernal, Utah	Irrigation	18	32	2 S.	1 E.	Untab	Sept. 6 1906
Wimmer Spring	Lars P. Oreson	Cleveland, Utah	Stockwatering	25	36	1 S.S.	10 E.	Emery	April 25 1905
Wolf Creek	E. J. Jeremy	Salt Lake City, Utah	Irrigation	3	27	1 N.	9 W.	Wasatch	Oct. 19 1905

# **Utah Hydrography.**

# **Utah Hydrography.**

**1889 to 1905.**

**Compiled by H. S. Kleinschmidt.**

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The following text relating to the Hydrography of Utah has been compiled from all available records, and extends back to the first records of stream flow, made in 1889, by the U. S. Geological Survey.

Most of the tables have been taken from publications of the U. S. Geological Survey, and from and including 1902 from the Stream Measurement Reports of the Hydrographic Branch of the U. S. Geological Survey.

Acknowledgments are due Geo. L. Swendsen, District Engineer U. S. Reclamation Service, Dr. R. J. Hyatt, Director of the Local Weather Bureau, and J. Fewson Smith, Jr., Water Commissioner of the Jordan River, and L. C. Kelsey, City Engineer, Salt Lake City, for the use of records.

## **CONVENIENT EQUIVALENTS.**

1 second-foot equals 50 California miner's inches.

1 second-foot equals 38.4 Colorado miner's inches.

1 second-foot equals 40 Arizona miner's inches.

1 second-foot equals 7.48 United States gallons per second; equals 448.8 gallons per minute; equals 646,272 gallons for one day.

1 second-foot equals 6.23 British imperial gallons per second.

1 second-foot for one year covers 1 square mile 1.131 feet deep; 13.572 inches deep.

1 second-foot for one year equals 0.000214 cubic mile; equals 31,536,000 cubic feet.

- 1 second-foot equals about 1 acre-inch per hour.
- 1 second-foot falling 10 feet equals 1.136 horsepower.
- 100 California miner's inches equal 15 United States gallons per second.
- 100 California miner's inches equal 77 Colorado miner's inches.
- 100 California miner's inches for one day equals 4 acre-feet.
- 100 Colorado miner's inches equal 2.60 second-feet.
- 100 Colorado miner's inches equal 19.5 United States gallons per second.
- 100 Colorado miner's inches equal 130 California miner's inches.
- 100 Colorado miner's inches for one day equal 5.2 acre-feet.
- 100 United States gallons per minute equal .223 second-foot.
- 100 United States gallons per minute for one day equal 0.44 acre-foot.
- 1,000,000 United States gallons per day equal 1.55 second-feet.
- 1,000,000 United States gallons equal 3.07 acre-feet.
- 1,000,000 cubic feet equal 22.95 acre-feet.
- 1 acre-foot equals 325,850 gallons.
- 1 inch deep on 1 square mile equals 2,323,200 cubic feet.
- 1 inch deep on 1 square miles equals 0.0737 second-foot per year.
- 1 inch equals 2.54 centimeters.
- 1 foot equals 0.3048 meter.
- 1 yard equals 0.9144 meter.
- 1 mile equals 1.60935 kilometers.
- 1 mile equals 1,760 yards; equals 5,280 feet; equals 63,-360 inches.
- 1 square yard equals 0.836 square meter.
- 1 acre equals 0.4047 hectare.
- 1 acre equals 43,560 square feet; equals 4,840 square yards.
- 1 acre equals 209 feet square, nearly.
- 1 square mile equals 259 hectares.
- 1 square mile equals 2.59 square kilometers.
- 1 cubic foot equals 0.0283 cubic meter.
- 1 cubic foot equals 7.48 gallons; equals 0.804 bushel.
- 1 cubic foot of water weighs 62.5 pounds.

- 1 cubic yards equals 0.7646 cubic meter.
- 1 cubic mile equals 147,198,000,000 cubic feet.
- 1 cubic mile equals 4,667 second-feet for one year.
- 1 gallon equals 3.7854 liters.
- 1 gallon equals 8.36 pounds of water.
- 1 gallon equals 231 cubic inches (liquid measure).
- 1 pound equals 0.4536 kilogram.
- 1 avoirdupois pound equals 7,000 grains.
- 1 troy pound equals 5,760 grams.
- 1 meter equals 39.37 inches. Log. 1.5951654.
- 1 meter equals 3.280833 feet. Log. 0.5159842.
- 1 meter equals 1.093611 yards. Log. 0.0388629.
- 1 kilometer equals 3,281 feet; equals five-eighths mile, nearly.
- 1 square meter equals 10.764 square feet; equals 1.196 square yards.
- 1 hectare equals 2.471 acres.
- 1 cubic meter equals 35.314 cubic feet; equals 1,308 cubic yards.
- 1 liter equals 1.0567 quarts.
- 1 gram equals 15.43 grains.
- 1 kilogram equals 2.2046 pounds.
- 1 tonneau equals 2,204.6 pounds.
- 1 foot per second equals 1.097 kilometers per hour.
- 1 foot per second equals 0.68 mile per hour.
- 1 cubic meter per minute equals 0.5886 second-foot.
- 1 atmosphere equals 15 pounds per square inch; equals 1 ton per square foot; equals 1 kilogram per square centimeter.
- Acceleration of gravity equals 32.16 feet per second every second.
- 1 horsepower equals 550 foot-pounds per second.
- 1 horsepower equals 76 kilogram-meters per second.
- 1 horsepower equals 746 watts.
- 1 horsepower equals 1 second-foot falling 8.8 feet.
- 1 1-3 horsepower equals about 1 kilowatt.
- To calculate water power quickly: Sec.-ft. $\times$ fall in feet =

Net horsepower on water wheel, realizing 80 per cent of the theoretical power.

Quick formula for computing discharge over weirs: Cubic feet per minute equals  $0.4025l\sqrt{h^3}$ ;  $l$ =length of weir in inches;  $h$ =head in inches flowing over weir, measured from surface of still water.

To change miles to inches on map:

Scale 1:125000, 1 mile = 0.50688 inch.

Scale 1:90000, 1 mile = 0.70400 inch.

Scale 1:62500, 1 mile = 1.01376 inches.

Scale 1:45000, 1 mile = 1.40800 inches.

#### FIELD METHODS OF MEASURING STREAM FLOW.

The methods used in collecting these data and in preparing them for publication are given in detail in Water-Supply Papers No. 94 (Hydrographic Manual, U. S. Geol. Survey) and No. 95 (Accuracy of Stream Measurements). In order that those who use this report may readily become acquainted with the general methods employed, the following brief description is given.

Streams may be divided, with respect to their physical conditions, into three classes—(1) those with permanent beds; (2) those with beds which change only during extreme low or high water; (3) those with constantly shifting beds. In estimating the daily flow special methods are necessary for each class. The data on which these estimates are based and the methods of collecting them are, however, in general the same.

There are three distinct methods of determining the flow of open-channel streams—(1) by measurements of slope and cross section and the use of Chezy's and Kutter's formulas; (2) by means of a weir; (3) by measurements of the velocity of the current and of the area of the cross section. The method chosen for any case depends on the local physical conditions, the degree of accuracy desired, the funds available, and the length of time that the record is to be continued.

*Slope Method.*—Much information has been collected relative to the coefficients to be used in the Chezy formula,  $v=c\sqrt{rs}$ . This has been utilized by Kutter, both in developing his formula for  $c$  and in determining the values of the coefficient  $n$ , which appears therein. The results obtained by the slope method are in general only roughly approximate, owing to the difficulty in obtaining accurate data and the uncertainty of the value for  $n$  to be used in Kutter's formula. The most common use of this method is in estimating the flood discharge of a stream when the only data available are the cross section, the slope, as shown by marks along the bank, and a knowledge of the general conditions.

*Weir Method.*—When funds are available and the conditions are such that sharp-crested weirs can be erected, these offer the best facilities for determining flow. If dams are suitably situated and constructed, they may be utilized for obtaining reliable estimates of flow. The conditions necessary to insure good results may be divided into two classes—(1) those relating to the physical characteristics of the dam itself and (2) those relating to the diversion and use of water around and through the dam.

The physical requirements are as follows: (a) Sufficient height of dam, so that backwater will not interfere with free fall over it; (b) absence of leaks of appreciable magnitude; (c) topography or abutments which confine the flow over the dam at high stages; (d) level crests, which are kept free from obstructions caused by floating logs or ice; (e) crests of a type for which the coefficients to be used in  $Q=c b h^{\frac{3}{2}}$  or some similar standard weir formula, are known (see Water-Supply Paper No. 150); (f) either no flash boards or exceptional care in reducing leakage through them, and in recording their condition.

Preferably there should be no diversion of water through or around the dam. Generally, however, a dam is built for purposes of power or navigation, and part or all of the water flowing past it is diverted for such uses. This water is measured and added to that passing over the dam. To insure accuracy in such estimates the amount of water diverted should be reasonably constant. Furthermore, it should be so diverted that it can be measured, either by a weir, a current meter, or a simple system of water wheels which are of standard make, or which have been rated as meters under working conditions, and so installed that the gate openings, the heads under which they work, and their angular velocities may be accurately observed.

The combination of physical conditions and uses of the water should be such that the estimates of flow will not involve, for a critical stage of considerable duration, the use of a head, on a broad-crested dam, of less than 6 inches. Moreover, when all other conditions are good, the cooperation of the owners or operators of the plant is still essential if reliable results are to be obtained.

A gaging station at a weir or dam has the general advantage of continuity of record through the period of ice and floods, and the disadvantages of uncertainty of coefficient to be

used in the weir formula and of complications in the diversion and use of the water.

*Velocity Method.*—The determination of the quantity of water flowing past a certain section of a stream at a given time is termed a discharge measurement. This quantity is the product of two factors—the mean velocity and the area of the cross section. The mean velocity is a function of surface slope, wetted perimeter, roughness of bed, and the channel conditions at, above, and below the gaging section. The area depends on the contour of the bed and the fluctuations of the surface. The two principal ways of measuring the velocity of a stream are by floats and current meters.

Great care is taken in the selection and equipment of gaging stations for determining discharge by velocity measurements in order that the data may have the required degree of accuracy. Their essential requirements are practically the same whether the velocity is determined by meters or floats. They are located as far as possible where the channel is straight both above and below the gaging section; where there are no cross currents, backwater, or boils; where the bed of the stream is reasonably free from large projections of a permanent character; and where the banks are high and subject to overflow only at flood stages. The station must be so far removed from the effects of tributary streams and dams or other artificial obstructions that the gage height shall be an index of the discharge.

Certain permanent or semipermanent structures, usually referred to as "equipment," are generally pertinent to a gaging station. These are a gage for determining the fluctuations of the water surface, bench marks to which the datum of the gage is referred, permanent marks on a bridge or a tagged line indicating the points of measurement, and, where the current is swift, some appliance, generally a secondary cable) to hold the meter in position in the water. As a rule, the stations are located at bridges if the channel conditions are satisfactory, as from them the observations can more readily be made and the cost of the equipment is small.

The floats in common use are the surface, subsurface, and tube or rod floats. A corked bottle with a flag in the top and weighted at the bottom makes one of the most satisfactory surface floats, as it is affected but little by wind. In case of flood measurements, good results can be obtained by observing the velocity of floating cakes of ice or debris. In case

of all surface-float measurements coefficients must be used to reduce the observed velocity to the mean velocity. The sub-surface and tube or rod floats are intended to give directly the mean velocity in the vertical. Tubes give excellent results when the channel conditions are good, as in canals.

In measuring velocity by a float, observation is made of the time taken by the float to pass over the "run," a selected stretch of river from 50 to 200 feet long. In each discharge measurement a large number of velocity determinations are made at different points across the stream and from these observations the mean velocity for the whole section is determined. This may be done by plotting the mean positions of the floats as indicated by the distances from the bank as ordinates and the corresponding times as abscissas. A curve through these points shows the mean time of run at any point across the stream, and the mean time for the whole stream is obtained by dividing the area bounded by this curve and its axis by the width. The length of the run divided by the mean time gives the mean velocity.

The area used in float measurements is the mean of the areas at the two ends of the run and at several intermediate sections.

The essential parts of the current meters in use are a wheel of some type, so constructed that the impact of flowing water causes it to revolve, and a device for recording or indicating the number of revolutions. The relation between the velocity of the moving water and the revolutions of the wheel is determined for each meter. This rating is done by drawing the meter through still water for a given distance at different speeds, and noting the number of revolutions for each run. From these data a rating table is prepared, which gives the velocity per second for any number of revolutions.

Many kinds of current meters have been constructed. They may, however, be classed in two general types—those in which the wheel is made up of a series of cups, as the Price, and those having a screw-propeller wheel, as the Haskell. Each meter has been developed for use under some special condition. In the case of the small Price meter, which has been largely developed and extensively used by the United States Geological Survey, an attempt has been made to get an instrument which could be used under practically all conditions.

Current-meter measurements may be made from a bridge,

cable, boat, or by wading; and gaging stations may be classified in accordance with such use. Fig. 1 shows a typical cable station.

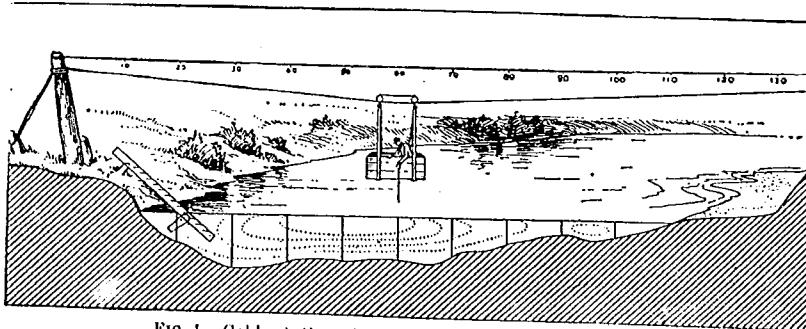


FIG. 1.—Cable station, showing section of river, car, gage, etc.

In making the measurement an arbitrary number of points are laid off on a line perpendicular to the thread of the stream. The points at which the velocity and depth are observed are known as measuring points and are usually fixed at regular intervals, varying from 2 to 20 feet, depending on the size and condition of the stream. Perpendiculars dropped from the measuring points divide the gaging section into strips. For each strip or pair of strips the mean velocity, area, and discharge are determined independently, so that conditions existing in one part of the stream may not be extended to parts where they do not apply.

Three classes of methods of measuring velocity with current meters are in general use—multiple-point, single-point, and integration.

The three principal multiple-point methods in general use are the vertical velocity curve, 0.2 and 0.8 depth; and top, bottom, and mid-depth.

In the vertical velocity curve method a series of velocity determinations are made in each vertical at regular intervals, usually from 0.5 to 1 foot apart. By plotting these velocities as abscissas and their depths as ordinates, and drawing a smooth curve among the resulting points, the vertical velocity curve is developed. This curve shows graphically the magnitude and changes in velocity from the surface to the bottom of the stream. The mean velocity in the vertical is then obtained by dividing the area bounded by this velocity curve and its axis by the depth. On account of the length of time required to make a complete measurement by this method,

its use is limited to the determination of coefficients for purposes of comparison and to measurements under ice.

In the second multiple-point method the meter is held successively at 0.2 and 0.8 of the depth and the mean of the velocities at these two points is taken as the mean velocity for that vertical. On the assumption that the vertical velocity curve is a common parabola with horizontal axis, the mean of the velocities at 0.22 and 0.79 of the depth will give (closely) the mean velocity in the vertical. Actual observations under a wide range of conditions show that this second multiple-point method gives the mean velocity very closely for open-water conditions where the depth is over 5 feet and the bed comparatively smooth, and moreover the indications are that it will hold nearly as well for ice-covered rivers.

In the third multiple-point method the meter is held at mid-depth, at 0.5 foot below the surface and at 0.5 foot above the bottom, and the mean velocity is determined by dividing by 6 the sum of the top velocity, four times the mid-depth velocity, and the bottom velocity. This method may be modified by observing at 0.2, 0.6, and 0.8 depth.

The single-point method consists in holding the meter either at the depth of the thread of mean velocity or at an arbitrary depth for which the coefficient for reducing to mean velocity has been determined.

Extensive experiments by vertical velocity curves show that the thread of mean velocity generally occurs at from 0.5 to 0.7 of the total depth. In general practice the thread of mean velocity is considered to be at 0.6 depth, at which point the meter is held in a majority of the measurements. A large number of vertical velocity-curve measurements taken on many streams and under varying conditions show that the average coefficient for reducing the velocity obtained at 0.6 depth to mean velocity is practically unity.

In the other principal single-point method the meter is held near the surface, usually 1 foot below, or low enough to be out of the effect of the wind or other disturbing influences. This is known as the subsurface method. The coefficient for reducing the velocity taken at the subsurface to the mean has been found to be from 0.85 to 0.95, depending on the stage, velocity, and channel conditions. The higher the stage the larger the coefficient. This method is specially adapted for flood measurements, or when the velocity is so great that the meter can not be kept at 0.6 depth.

The vertical-integration method consists in moving the meter at a slow, uniform speed from the surface to the bottom and back again to the surface, and noting the number of revolutions and the time taken in the operation. This method has the advantage that the velocity at each point of the vertical is measured twice. It is well adapted for measurements under ice and as a check on the point methods.

The area, which is the other factor in the velocity method of determining the discharge of a stream, depends on the stage of the river, which is observed on the gage, and on the general contour of the bed of the stream, which is determined by soundings. The soundings are usually taken at each measuring point at the time of the discharge measurement, either by using the meter and cable or by a special sounding line or rod. For streams with permanent beds standard cross sections are usually taken during low water. These sections serve to check the soundings which are taken at the time of the measurements, and from them any change which may have taken place in the bed of the stream can be detected. They are also of value in obtaining the area for use in computations of high-water measurements, as accurate soundings are hard to obtain at high stages.

In computing the discharge measurements from the observed velocities and depths at various points of measurement, the measuring section is divided into elementary strips, and the mean velocity, area, and discharge are determined separately for either a single or a double strip. The total discharge and the area are the sums of those for the various strips, and the mean velocity is obtained by dividing the total discharge by the total area.

The determination of the flow of an ice-covered stream is difficult, owing to diversity and instability of conditions during the winter period and also to lack of definite information in regard to the laws of flow of water under ice. The method now employed is to make frequent discharge measurements during the frozen periods by the vertical velocity-curve method and to keep an accurate record of the conditions, such as the gage height to the surface of the water as it rises in a hole cut in the ice, the thickness and character of the ice, etc. From these data an approximate estimate of the daily flow can be made by constructing a rating curve (really a series of curves) similar to that used for open channels, but considering, in addition to gage heights and dis-

charge, varying thickness of ice. Such data as are available in regard to this subject are published in Water-Supply Paper No. 146, pages 141-148, and No. 187.

#### OFFICE METHOD OF COMPUTING RUN-OFF.

There are two principal methods of estimating run-off, depending on whether or not the bed of the stream is permanent.

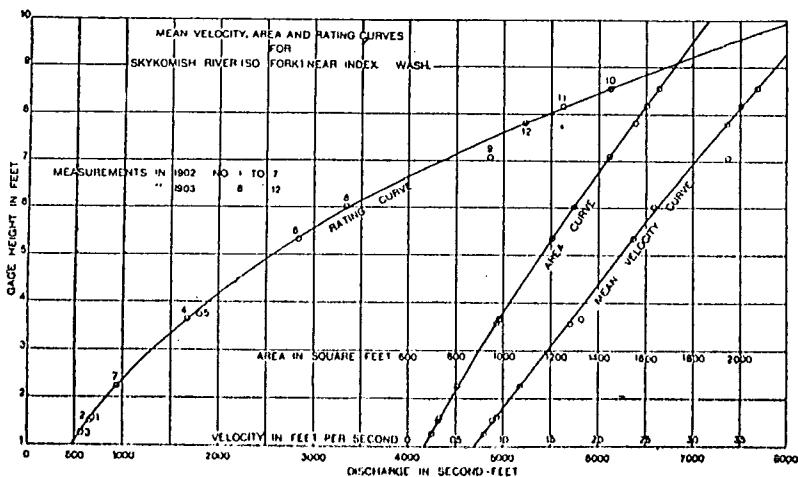


Fig. 2.—Rating, area, and mean-velocity curves for South Fork of Skykomish River, near Index, Wash.

For stations on streams with permanent beds the first step in computing the run-off is the construction of the rating table, which shows the discharge corresponding to any stage of the stream. This rating table is applied to the record of stage to determine the amount of water flowing. The construction of the rating table depends on the method used in measuring flow.

For a station at a weir or dam, the basis for the rating table is some standard weir formula. The coefficients to be used in its application depend on the type of dam and other conditions near its crest. After inserting in the weir formula the measured length of crest and assumed coefficient, the discharge is computed for various heads and the rating table constructed.

The data necessary for the construction of a rating table for a velocity-area station are the results of the discharge

measurements, which include the record of stage of the river at the time of the measurement, the area of the cross section, the mean velocity of the current, and the quantity of water flowing. A thorough knowledge of the conditions at and in the vicinity of the station is also necessary.

The construction of the rating table depends on the following laws of flow for open, permanent channels: (1) The discharge will remain constant, so long as the conditions at or near the gaging station remains constant. (2) The discharge will be the same whenever the stream is at a given stage, if the change of slope due to the rise and fall of the stream be neglected. (3) The discharge is a function of and increases gradually with the stage.

The plotting of results of the various discharge measurements, using gage heights as ordinates, and discharge, mean velocity, and area as abscissas, will define curves which show the discharge, mean velocity, and area corresponding to any gage height. For the development of these curves there should be, therefore, a sufficient number of discharge measurements to cover the range of the stage of the stream. Fig. 2 shows a typical rating curve with its corresponding mean-velocity and area curve.

As the discharge is the product of two factors, the area and the mean velocity, any change in either factor will produce a corresponding change in the discharge. Their curves are therefore constructed in order to study each independently of the other.

The area curve can be definitely determined from accurate soundings extending to the limits of high water. It is always concave toward the horizontal axis or on a straight line, unless the banks of the stream are overhanging.

The form of the mean-velocity curve depends chiefly on the surface slope, the roughness of the bed, and the cross section of the stream. Of these, the slope is the principal factor. In accordance with the relative change of these factors the curve may be either a straight line, convex or concave toward either axis, or a combination of the three. From a careful study of the conditions at any gaging station the form which the vertical velocity curve will take can be predicted, and it may be extended with reasonable certainty to stages beyond the limits of actual measurements. Its principal use is in connection with the area curve in locating errors in discharge measurements and in constructing the rating table.

The discharge curve is defined primarily by the measurements of discharge, which are studied and weighted in accordance with the local conditions existing at the time of each measurement. The curve may, however, best be located between and beyond the measurements by means of curves of area and mean velocity. The discharge curve under normal conditions is concave toward the horizontal axis and is generally parabolic in form.

In the preparation of the rating table the discharge for each tenth or half-tenth on the gage is taken from the curve. The differences between successive discharges are then taken and adjusted according to the law that they shall either be constant or increasing.

The determination of the daily discharge of streams with changeable beds is a difficult problem. In case there is a weir or dam available, a condition which seldom exists on streams of this class, estimates can be obtained by its use. In the case of velocity-area stations frequent discharge measurements must be made if the estimates are to be other than rough approximates. For stations with beds which shift slowly or are materially changed only during floods, rating tables can be prepared for periods between such changes, and satisfactory results obtained with a limited number of measurements, provided that some of them are taken soon after the change occurs. For streams with continually shifting beds, such as the Colorado and Rio Grande, discharge measurements should be made every two or three days and the discharges for intervening days obtained either by interpolation modified by gage height or by Professor Stout's method, which has been described in full in the Nineteenth Annual Report of the United States Geological Survey, Part IV, page 323, and in the Engineering News of April 21, 1904. This method, or a graphical application of it, is also much used in estimating flow at stations where the bed shifts but slowly.

## **GENERAL DESCRIPTION OF THE GREAT BASIN.**

(See Gilbert's Monograph on Lake Bonneville.)

In the interior of the North American continent, west of the Rocky Mountains, is an immense area known as the Great Basin, the streams of which do not discharge to the ocean. The area is not one single drainage basin, but consists rather of a number of basins, some of which are connected and others closed; the outer rim of all, however, is at such an elevation that the region as a whole has no surface outlet.

In outline the Great Basin is rudely triangular. It is bordered on the west by the Sierra Nevada, on the north by the Columbia plateaus, on the east by the Rocky Mountains and the Colorado Plateaus, and the southern extremity extends almost to the Gulf of California. This inclosed area is approximately 800 miles long from north to south, 500 miles broad at its widest part, and has been estimated to include 208,000 square miles. It comprises the western part of Utah, almost all of Nevada, and contiguous parts of Idaho, Oregon, and California.

Topographically this interior drainage area is characterized by isolated, narrow mountain ranges, trending north and south, which are separated by broad valleys varying considerably in altitude. In the southern part the valleys are low, Death Valley being below sea level, while in the north the valleys have a general elevation of from 4,000 to 5,000 feet. The intervening highlands often rise several thousand feet above their bases, and some of the peaks of the bordering ranges attain elevations of over 13,000 feet above sea level.

Upper branches of the intermontane valleys extend into the interior ranges as narrow drainage ways that are dry during most of the year; but the drainage from the high mountains on the east and west borders of the basin passes through deep canyons into the broad valleys, where the perennial streams maintain lakes. Among these are Great Salt, Utah, and Sevier lakes in the eastern part, and Pyramid, Winnemucca, Honey, Walker, Mono, and Owens lakes in the western part of the Great Basin. With the exception of Utah Lake, which discharges by Jordan River into Great Salt Lake, these lakes are saline in character, as a conse-

quence of the concentration of salts due to evaporation. Bear Lake, in the mountains of the eastern border, and Lake Tahoe, in the Sierras, are large bodies of fresh water that drain, respectively, to Great Salt and Pyramid lakes. Shallow, temporary bodies of water accumulate in some of the broad intermontane valleys during the wet season, but completely evaporate during the summer, leaving muddy plains called playas.

Geologically the Great Basin is well known as the type region of the "Basin Range structure." Many of the isolated, narrow mountain ranges that trend north and south are steep on one side, exposing cross sections of the rocks, and sloping on the other, conforming with the dip of the strata. These ranges have been uplifted by movements of the earth's crust which have broken it into tilted blocks. The greatest displacements of the Great Basin are associated with the eastern and western borders, the Wasatch Mountains and the Sierra Nevada having been uplifted many thousand feet. The mountains of the Great Basin are commonly composed of Paleozoic strata, often modified by vulcanism, and the products of weathering and disintegration of these rocks have accumulated in the broad intervening valleys, which are strewn to great depths with unconsolidated debris.

The climate of the Great Basin is extremely arid, and except for a few favored spots where irrigation is practiced, the region in general is a desert. Over the larger part of the area the annual precipitation is less than 10 inches, but it is greater on the bordering high lands, especially on the Sierra Nevada, where it is over 40 inches. Temperature varies widely, owing to the large extent of the area and to differences in elevation. Over most of the region the heat of the summer days is intense, but the diurnal variation is considerable. Evaporation is enormous. From the surface of water in the vicinity of Salt Lake City it amounts to about 60 inches in a year, and over the major part of the Great Basin it is much greater, amounting in places possibly to 150 inches.

An arid climate, however, has not always prevailed in this region. In late geologic time (early Quaternary) the bordering high mountains supported glaciers, and enormous lakes, the old shore lines of which are now plainly marked on the sides of many valleys, accumulated in the Great Basin. The two largest of these lakes have been named after early explorers. Lake Bonneville occupied a considerable part of western Utah, its shrunken remnants being represented by

Sevier, Utah, and Great Salt lakes; and Lake Lahontan covered an immense area in western Nevada.

The chief rivers of the Great Basin rise in the mountains which form its eastern and western borders and receive their principal supply from melting snow. The nature of the stream discharge is characteristic; the maximum commonly occurs in late spring or early summer, after which the flow decreases, reaching a minimum during the winter months. After leaving the mountains the streams receive little or no increment; in the broad, waste-filled valleys evaporation and seepage cause diminution in size, and often they entirely cease to flow.

## **WASATCH MOUNTAINS DRAINAGE.**

### *Principal Streams.*

The Wasatch Mountains drainage area includes the western half of Utah and small portions of Idaho and Wyoming. The headwaters of the various streams lie either in the Wasatch Mountains or in the plateaus to the south, and they drain either into Great Salt Lake or Sevier Lake. The following are the principal rivers of the area:

Bear and Weber rivers, discharging into Great Salt Lake.

City, Parleys, Emigration, Mill, and Big and Little Cottonwood creeks, tributary to Jordan River and thus to Great Salt Lake. These creeks have small watersheds, but in the mountain courses maintain perennial flows. On reaching the main valley they are extensively used for irrigation and the first three, together with Big Cottonwood Creek, furnish the chief water supply for Salt Lake City.

American Fork and Hobble creeks, Spanish Fork, and Provo River, discharging into Utah Lake.

Sevier River, with its tributary, San Pitch River, draining into Sevier Lake.

## BEAR RIVER BASIN.

### *Description of Basin.*

Bear River rises on the northern slope of the Uinta Mountains, in the northeastern part of Utah, and after a circuitous course—in which it leaves Utah and enters Wyoming, reenters Utah, appears again in Wyoming, and makes a long detour in Idaho—it returns again to Utah and finally discharges its water into Great Salt Lake. The maximum elevation of the upper rim of the basin is 13,500 feet.

In the upper part of its course, above the Dingle gaging station, the country is rough and broken, the rocks of the extreme headwater regions being principally sandstone and quartzite, covered with a thin layer of soil which supports scattered groves of fir and aspen. Farther down the prevailing formation is a compact limestone covered with a clayey soil, generally dry and with a rank growth of sagebrush. The tributary streams are numerous and well distributed, but they are generally short and confined to steep, narrow canyons. There are no marshes, extensive meadows, or forests, but a few small lakes lie near the head of the river. Numerous small springs and the melting snow which comprises the greater part of the precipitation are the chief sources of supply. The annual high-water period occurs during May and June, and the stream is not subject to quick floods or freshets.

Just below Dingle the main stream passes through the north end of Bear Lake Valley in a well-defined channel with no overflow, and from this point to Preston it is confined largely to a steep, narrow canyon, with occasional small, narrow valleys containing irrigated farms. The tributaries in this portion of the basin are few, the principal ones being Mink and Cottonwood creeks. About 10 miles below Dingle the outlet to Bear Lake joins the river. This is a small, crooked, sluggish stream, that discharges but little water at any time, though it is the only visible outlet to Bear Lake, which has an area of about 144 square miles.

The total unappropriated flow between Dingle and Preston is used for irrigation. There is no storage on the main stream, but on Mink Creek a number of small storage reser-

voirs are contemplated or in process of construction, the water to be diverted for the irrigation of lands in the northwest end of Cache Valley.

Between Preston and Collinston the Bear is a sluggish stream, traversing the west side of Cache Valley in a well-defined channel, which during extreme floods, overflows slightly and covers a very narrow strip immediately along the river. The principal tributary streams in this portion of the course are Cub Creek and Logan River. The former has its source in the Bear River Range, and drains a rough country composed of limestone with but little overlying soil. The creek is confined to a steep, narrow, canyon until it reaches Cache Valley, where it flows sluggishly for about 15 miles through a winding, but well-defined, channel into Bear River. It discharges considerable water into the main stream during flood and winter seasons, but its entire summer flow is used for irrigation in the north end of Cache Valley. A gaging station was maintained during a part of 1900 and 1901 on Cub Creek, about 4 miles northeast of Franklin, at the mouth of the canyon, but, owing to unfavorable conditions, it was discontinued.

Logan River enters the Bear about 7 miles above the gaging station at Collinston, a short distance above the point where it leaves Cache Valley and enters the canyon.

Practically the only inflow to the Bear in Cache Valley is from seepage and springs. The lower portions of the valley form an artesian basin containing numerous small, flowing wells. The water table lies very near the surface, and during the early spring the lower lands are largely swamp.

The Bear River Canal Company diverts the entire summer flow of the stream above Collinston onto agricultural lands lying on both sides of the river below Bear River Canyon. This system has a capacity of about 1,000 second-feet, and during the winter and flood seasons a part of the water is used to develop electric power at a point about one-fourth mile above the Collinston station, being returned to the river at Collinston. From 10 to 30 second-feet reach the stream through leaks and as seepage from the diversion canals.

Owing to the complete control of the stream by irrigation works, the discharge is liable to extreme variation at any period.

### Bear Lake at Fishhaven, Idaho.

This station was established October 5, 1903. It is located at Fishhaven, Idaho, on the west shore of Bear Lake, about 4 miles north of the Idaho-Utah State line. It is on land used as a summer resort, owned by G. C. Gray, of Montpelier, Idaho, and is immediately south of the summer resort, known as Nelson's Camp.

A plain staff gage, read when the surface of the lake is calm by John L. Nelson, is driven vertically into the bed of the lake 10 feet east of a crib where water from a spring rises to the surface. The gage is protected by 2 by 4 inch stakes driven on either side. The spring melts the ice before the regular breaking-up season, the consequence being that the shore at this point is comparatively free from ice, while only a few hundred feet away it is piled up in great, grinding masses. The gage is referred to bench marks as follows: (1) A wooden hub driven flush with the ground, 1 foot south of a 15-inch cottonwood tree, 1 foot east of a fence on the east side of the county road, 142 feet north of the gage, and about  $18^{\circ}$  to the west; elevation above zero of gage, 12.19 feet. (2) A shoulder cut on an above-ground root of a 20-inch cottonwood tree, 2 feet southeast of the southeast corner of the porch of a house on the summer-resort grounds; it bears  $81^{\circ}$  W., 93 feet south of the gage rod; elevation above zero of gage, 7.13 feet. By readings on the lake surface here and at the north end of the lake, October 5, 1903, the elevation of the zero of gage was found to be 12.26 feet by the datum used on canal surveys, etc., during 1903. This elevation is probably correct to within 0.05 foot. The elevation above sea level is approximately 6,000 feet.

An extreme high-water mark pointed out by the observer, who has lived here thirty-three years, indicates that twenty or thirty years ago the surface of the lake stood at approximately gage height 6.5 feet. A more definite mark shows a gage height of 6 feet as occurring twenty years ago.

The observations at this station during 1904 have been made under the direction of G. L. Swendsen, district engineer.

**MEAN DAILY GAGE HEIGHT,**  
**In feet, of Bear Lake at Fishhaven, Idaho, for 1903.**

Day.	Oct.	Nov.	Dec.	Day.	Oct.	Nov.	Dec.
1				17			
2		2.50		18			
3				19			
4			2.15	20			
5	2.20	2.50		21			2.10
6		2.05		22		2.10	
7				23			
8				24			2.10
9				25			
10				26			
11				27			
12	2.05			28			
13				29		2.05	
14		2.07	2.15	30	2.07		
15				31			2.10
16							

**MEAN DAILY GAGE HEIGHT,**  
**In feet, of Bear Lake at Fishhaven, Idaho, for 1904.**

Day.	Aug.	Sept.	Oct.	Nov.	Dec.	Day.	Aug.	Sept.	Oct.	Nov.	Dec.
1		2.35	2.00		2.00	17	2.45	2.20		2.70	2.50
2		2.35	2.00		2.55	18	2.45	2.20			2.50
3		2.30	2.00		2.55	19	2.42	2.15		2.65	2.50
4		2.30	2.00		2.55	20	2.40	2.15		2.65	2.50
5		2.30	2.00		2.55	21	2.40	2.15		2.65	2.50
6		2.30	2.00		2.55	22	2.40	2.15		2.65	
7		2.30	2.00		2.55	23	2.40	2.10		2.65	
8		2.30	2.00	2.80		24	2.40	2.10		2.65	
9		2.25		2.80		25	2.40	2.10		2.60	2.50
10		2.25				26	2.40	2.10		2.60	2.50
11		2.25		2.76	2.60	27	2.40	2.05		2.60	2.60
12		2.25		2.76	2.50	28	2.40	2.05		2.60	
13		2.25		2.76	2.50	29	2.40	2.00		2.60	
14	2.45	2.20		2.70	2.50	30	2.40	2.00		2.60	
15	2.45	2.20		2.70	2.50	31	2.35				
16	2.45	2.20		2.70							

**DAILY GAGE HEIGHT**  
In feet, of Bear Lake at Fishhaven, Idaho, for 1905.

Day.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
2									2.7			
5	2.5							3.0				
6		2.55			2.9					2.4		
8							3.05					1.85
10			2.7			3.15						2.05
11								2.9				
12					3.15				2.6			
14												
15		2.55								2.3		
16	2.5			2.95								
17			2.7									1.8
18								2.8				
19							3.03				2.0	
20		2.6				3.15						
22					3.2							
23				2.75	2.1							
24	2.5											
25									2.5	2.2		
26												1.8
27		2.65										
28							3.03					
29												
30				3.05		3.1						1.0
31	2.5		2.8		3.25							

Note.—Lake frozen over from February 22 to March 17.

**PRECIPITATION**  
At Meadowville, Utah, in drainage basin of Bear River.

Year.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.	Ann.
1900	1.80	1.77	0.13	1.80	0.08	0.01	0.02	0.30	1.31	1.70	3.00	0.41	12.39
1901	1.10	1.00	0.00	2.22	1.02	0.15	1.70	0.05	0.26	0.75	0.55	1.85	13.04
1902	0.40	0.85	1.00	2.00	1.50	0.00		0.30	0.40	0.40	0.05	1.30	10.00
1903	4.10	0.60	1.25	0.80	0.00	1.00	0.76		1.20	0.00	3.20	0.20	14.00
1904	1.10	4.70	4.50	1.30	1.55	0.45	0.50	0.55	0.40	1.60	0.05	1.30	18.00
1905	2.30	1.25	1.35	2.10	4.15	1.15	0.95	1.77	1.40	0.75	0.00	0.40	17.87
1906	5.45	1.10	3.40	1.75	4.10	1.30	0.90	2.80	0.00	1.05	0.75	1.55	25.05
Mean	2.32	1.74	1.75	1.00	2.03	0.71	0.60	0.05	0.81	1.02	1.33	1.00	10.15

**Bear River at Dingle, Idaho.**

This station was established May 9, 1903. It is located in a cut made by the Oregon Short Line Railroad Company one-fourth mile east of the Dingle railroad station and about 250 feet south of the track.

The channel is straight for about 400 feet above and be-

low the station. Both banks are high, are not liable to overflow, and are barren except for small brush. The bed of the stream is of well-compacted small gravel and soil and seems to be permanent. The velocity is moderate at ordinary stages, and is well distributed. The stream freezes over late in November or early in December, and ordinarily the ice does not begin to break up until late in February. There is no anchor or needle ice at any stage. Winter records at this station are of special importance, as the object of the station is the collection of facts concerning the amount of water available for storage in Bear Lake.

Discharge measurements are made by means of a cable and car of the regular form, the length of the span being 151 feet. The cable is marked at 10-foot intervals with white paint. The initial point for soundings is the first mark from the north and is 8 feet from the north cable support.

The gage, which is read daily by M. K. Hopkins, was originally of the vertical type, but in December, 1905, it was replaced by a new inclined gage, consisting of a 6 by 6 inch fir, fastened to three vertical double posts well embedded in the bank. It is located 3 feet below the old gage and about 25 feet above the cable. The datum of the new gage was made to agree with that of the old one. The gage is referred to bench marks as follows: (1) A United States Geological Survey standard metallic post bearing N.  $33^{\circ} 15'$  E., 37 feet from north end of cable; elevation above zero of gage, 15.59 feet; elevation above mean sea level, determined from Oregon Short Line Railroad elevations, 6,000 feet. (2) Top of south cable post; elevation, 18.04 feet above zero of gage. (3) Top of 4-foot stick of timber planted 2.7 feet in the ground; elevation above zero of gage, 18.42 feet. During the winter of 1904-5 gage readings were taken once or twice each week, the surface of the water being read after the ice had been cut around the gage and the thickness of the ice in each case noted.

Information in regard to this station is contained in the following Water-Supply Papers of the United States Geological Survey:

Description: 100, p. 135; 133, p. 238.

Discharge: 100, p. 135; 138, p. 238.

Discharge, monthly: 100, p. 137; 133, p. 240.

Gage heights: 100, p. 136; 133, p. 239.

Rating table: 100, p. 136; 133, p. 240.

The observations at this station during 1903 have been made under the direction of G. L. Swendsen, district hydrographer.

**DISCHARGE MEASUREMENTS  
Of Bear River at Dingle, Idaho, in 1903.**

Date.	Hydrographer	Gage	Discharge
		height. Feet.	Second-ft.
April 27	Geo. L. Swendsen		976
May 9	W. G. Swendsen	4.60	581
June 20	do.	5.95	1,333
September 3	W. P. Hardesty	3.52	135
October 7	do.	3.66	168

**MEAN DAILY GAGE HEIGHT,  
In feet, of Bear River at Dingle, Idaho, for 1903.**

Day.	May.	June.	July.	Aug.	pt.	Oct.	Nov.	Dec.
1		5.00	5.00	3.90	50	3.60	3.60	3.90
2		5.00	4.90	3.90	50	3.60	3.60	4.10
3		5.20	4.70	3.90	50	3.70	3.60	4.50
4		5.30	4.70	3.90	50	3.70	3.60	4.80
5		5.50	4.60	3.90	50	3.70	3.60	5.10
6		5.60	4.60	3.90	50	3.70	3.60	4.70
7		5.90	4.60	3.80	60	3.70	3.70	3.60
8		6.00	4.60	3.80	50	3.70	3.70	4.00
9		6.00	4.50	3.80	50	3.70	3.70	4.00
10	4.05	6.00	4.40	3.80	50	3.70	3.60	4.10
11	4.00	6.10	4.50	3.80	50	3.60	3.50	3.50
12	4.40	6.10	4.50	3.80	50	3.60	3.60	3.30
13	4.40	5.80	4.50	3.80	60	3.60	3.60	3.20
14	4.50	5.70	4.50	3.80	60	3.60	3.80	3.30
15	4.60	5.60	4.40	3.80	60	3.60	3.70	3.20
16	4.70	6.00	4.40	3.70	60	3.60	3.90	3.30
17	4.00	5.00	4.30	3.70	60	3.60	3.50	3.50
18	5.00	5.00	4.30	3.70	60	3.60	3.70	3.30
19	4.00	5.00	4.30	3.70	60	3.60	-----	3.40
20	5.20	6.10	4.30	3.70	60	3.60	3.60	3.40
21	5.00	5.90	4.20	3.70	60	3.60	3.80	3.40
22	5.00	5.90	4.20	3.70	60	3.60	3.80	3.40
23	4.00	5.80	4.10	3.70	60	3.60	3.80	3.40
24	4.80	5.70	4.10	3.60	60	3.60	3.80	-----
25	4.00	5.70	4.00	3.60	60	3.60	3.70	3.40
26	4.00	5.50	4.00	3.60	60	3.60	4.50	3.60
27	4.00	5.40	4.00	3.60	60	3.60	4.00	3.60
28	4.00	5.40	4.00	3.60	60	3.60	3.80	-----
29	4.00	5.30	4.00	3.60	60	3.60	4.40	3.60
30	4.00	5.20	3.90	3.60	60	3.60	3.60	3.60
31	5.00		3.90	3.50	-----	3.60	-----	-----

**RATING TABLE**  
For Bear River at Dingle, Idaho, from May 10 to December 31, 1903.

Gage height.	Discharge.	Gage height.	Discharge.	Gage height.	Discharge.	Gage height.	Discharge.
Feet.	Sec.-feet.	Feet.	Sec.-feet.	Feet.	Sec.-feet.	Feet.	Sec.-feet.
3.2	82	4.0	279	4.8	695	5.6	1,135
3.3	96	4.1	322	4.9	759	5.7	1,100
3.4	112	4.2	369	5.0	805	5.8	1,245
3.5	131	4.3	421	5.1	860	5.9	1,300
3.6	153	4.4	475	5.2	915	6.0	1,355
3.7	178	4.5	530	5.3	970	6.1	1,410
3.8	207	4.6	585	5.4	1,025		
3.9	241	4.7	640	5.5	1,080		

Table well defined. Rating table does not take into account canals taken out immediately above this station.

**ESTIMATED MONTHLY DISCHARGE**  
Of Bear River at Dingle, Idaho, for 1903.

Month.	Discharge in second-feet.			Total in acre-feet.
	Maximum.	Minimum.	Mean.	
May 10-31	915	475	704	30,720
June	1,410	805	1,170	70,155
July	805	241	458	28,161
August	241	131	191	11,744
September	153	131	145	8,028
October	178	153	160	9,776
November	530	131	205	12,108
December*	800	82	218	13,404

\*December 21 and 27-31 estimated.

**DISCHARGE MEASUREMENTS**  
Of Bear River at Dingle, Idaho, in 1904.

Date.	Hydrographer.	Area of section.	Mean velocity.	Gage height.	Discharge.
March 3*	W. P. Hardesty	Square ft.	Ft. per sec.	Feet.	Second-ft.
April 13	do	522	2.01	0.50	1,051
May 8	C. Tanner	340	2.64	5.28	808
June 7	H. S. Kleinschmidt	518	3.80	0.73	2,013
June 28	do	572	4.03	7.40	2,050
August 10	C. Tanner	435	3.21	0.04	1,306
November 7	W. Swendsen	191	1.41	3.00	271
December 20†	C. Tanner	104	1.30	3.05	270
		140	1.65	3.03	246

\*River frozen at gage. †Stream nearly frozen over.

**MEAN DAILY GAGE HEIGHT.**  
In feet, of Bear River at Dingle, Idaho, for 1901.

Day.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
1	*3.60	4.10	6.40	5.40	6.00	7.90	5.60	4.15	4.00	3.90	4.00	4.20
2	3.70	4.10	6.50	4.90	6.00	7.90	5.60	4.10	4.00	3.85	4.00	4.00
3	3.70	4.10	7.00	4.90	6.10	7.95	5.50	4.00	4.00	3.85	4.00	4.00
4	3.80	4.20	6.60	4.70	6.20	8.00	5.50	4.00	4.00	3.80	4.00	4.50
5	3.80	4.20	6.30	4.80	6.30	7.90	5.50	4.00	4.00	3.80	4.00	4.10
6	3.80	4.20	5.80	4.90	6.50	7.60	5.50	4.00	4.00	3.80	4.00	4.00
7	3.80	4.20	5.40	5.10	6.70	7.10	5.50	3.95	4.00	-----	3.95	4.30
8	3.90	4.20	5.50	5.20	6.80	7.30	5.40	3.90	4.00	3.85	3.95	3.90
9	3.80	4.20	4.90	5.10	6.60	7.20	5.40	3.90	4.00	3.90	3.95	4.20
10	3.90	4.20	5.10	5.10	6.60	7.10	5.30	3.90	3.95	3.90	3.95	3.90
11	3.90	4.20	5.20	5.10	6.60	7.00	5.20	3.90	3.90	3.90	3.90	4.10
12	3.90	4.20	5.80	5.20	6.60	6.90	5.15	3.90	3.90	4.00	3.90	4.20
13	3.90	4.20	5.50	5.40	6.60	6.85	5.10	4.10	3.90	4.00	4.00	4.10
14	4.00	4.20	5.30	5.50	6.60	6.70	5.10	4.10	3.90	4.00	4.10	3.90
15	4.00	4.20	5.00	5.80	0.70	6.00	5.00	3.90	3.90	-----	3.60	3.90
16	4.00	4.20	5.20	6.00	6.90	6.60	5.00	3.90	3.90	4.00	4.30	3.90
17	4.00	4.20	4.90	6.10	6.95	6.80	4.90	4.00	3.90	4.00	4.50	4.30
18	4.00	4.20	4.80	6.00	7.00	6.80	4.80	4.00	3.90	4.00	4.00	4.10
19	4.00	4.20	4.90	5.90	7.20	6.80	4.75	4.00	3.90	4.00	4.00	3.90
20	4.00	4.20	4.00	5.90	7.30	6.70	4.70	4.00	3.90	4.00	3.80	4.10
21	4.00	4.20	5.00	5.90	7.40	6.60	4.70	4.00	3.90	4.00	3.80	4.00
22	4.00	4.20	5.20	5.95	7.50	6.00	4.50	4.10	3.90	4.00	4.30	3.90
23	4.00	4.40	5.40	5.90	7.70	6.55	4.40	4.10	3.90	4.00	4.40	4.10
24	4.00	4.40	5.60	5.80	7.75	6.50	4.40	4.20	3.90	4.00	4.80	3.90
25	4.00	4.40	-----	5.70	7.80	6.40	4.35	4.40	3.90	4.00	4.30	4.00
26	4.00	4.00	5.20	5.70	7.90	6.20	4.30	4.20	3.90	4.00	4.60	4.00
27	4.00	4.80	5.10	5.80	8.00	6.20	4.25	4.10	3.90	4.00	4.00	4.30
28	4.00	5.70	4.80	5.90	8.00	6.05	4.30	4.00	3.90	4.00	4.20	5.40
29	4.00	0.75	4.70	5.90	7.00	5.00	4.20	4.00	3.90	4.00	4.40	5.20
30	4.10	-----	4.70	6.00	7.90	5.75	4.20	-----	3.90	4.00	4.40	5.30
31	4.10	-----	5.00	-----	7.00	-----	4.20	4.00	-----	4.00	-----	4.70

\*River frozen from Jan. 1 to Mar. 7. Gage read to surface of ice. Above gage heights have been corrected for ice conditions before applying the rating table.

†Gage heights December 27-31 are too high owing to ice conditions. Have been corrected to 4.0 feet in getting discharge.

**RATING TABLE**  
For Bear River at Dingle, Idaho, from January 1 to December 31, 1904.

Gage height.	Discharge.	Gage height.	Discharge.	Gage height.	Discharge.	Gage height.	Discharge.
Feet.	Sec.-feet.	Feet.	Sec.-feet.	Feet.	Sec.-feet.	Feet.	Sec.-feet.
3.10	60	4.20	370	5.30	895	6.40	1,730
3.20	75	4.30	410	5.40	935	6.60	1,910
3.30	90	4.40	455	5.50	1,020	6.80	2,090
3.40	110	4.50	495	5.60	1,085	7.00	2,275
3.50	135	4.60	540	5.70	1,155	7.20	2,455
3.60	160	4.70	590	5.80	1,230	7.40	2,635
3.70	190	4.80	635	5.90	1,300	7.60	2,815
3.80	225	4.90	685	6.00	1,375	7.80	2,995
3.90	260	5.00	740	6.10	1,460	8.00	3,175
4.00	295	5.10	790	6.20	1,550		
4.10	330	5.20	840	6.30	1,640		

The above table is applicable only for open-channel conditions. It is based upon 9 discharge measurements made during 1903 and 1904. It is well defined between gage heights 3.50 feet and 7.40 feet. The table has been extended beyond these limits. Above gage height 6.10 feet the rating curve is a tangent, the difference being 90 per tenth.

**ESTIMATED MONTHLY DISCHARGE**  
Of Bear River at Dingle, Idaho, for 1904.

Month,	Discharge in second-feet.			Total in acre-feet.
	Maximum.	Minimum.	Mean.	
January -----	110	60	87.3	5,308
February -----	500	110	215	12,370
March -----	1,230	500	854	52,510
April -----	1,100	500	1,059	63,020
May -----	3,175	1,375	2,302	141,500
June -----	3,175	1,100	2,177	120,500
July -----	1,085	370	711	43,730
August -----	465	260	305	18,750
September -----	205	200	271	16,130
October -----	295	225	277	17,030
November -----	635	100	330	20,170
December -----	510	200	322	19,800
<b>The year -----</b>	<b>3,175</b>	<b>60</b>	<b>743</b>	<b>530,000</b>

**DISCHARGE MEASUREMENTS**  
Of Bear River at Dingle, Idaho, in 1905.

Date.	Hydrographer.	Width.	Area of section.	Mean velocity.	Gage height.	Discharge.
		Feet.	Square feet.	Ft. per second.	Feet.	Second-feet.
Feb. 13*	C. Tanner	92	136	1.43	4.45	194
March 24	W. G. Swendsen	107	210	1.80	4.22	379
September 19	do	97	136	.98	3.48	133

\*Stream frozen; ice 1 foot thick near the center, and increasing gradually to 1.5 feet at either side. No anchor or slush ice.

†Surface of water in hole cut in ice.

**DAILY GAGE HEIGHT.**  
In feet, of Bear River at Dingle, Idaho, for 1905.

Day.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
1	4.8	—	—	4.2	4.2	3.7	3.85	3.35	3.3	3.5	3.55	3.5
2	4.7	—	4.8	4.1	4.15	3.95	3.8	3.4	3.3	3.5	3.55	3.5
3	4.0	4.8	—	4.1	4.2	4.0	3.75	3.35	3.3	3.5	3.55	3.5
4	4.0	4.8	4.7	4.1	4.2	3.95	3.75	3.4	3.3	3.5	3.6	3.55
5	4.4	4.8	—	4.1	4.2	4.05	3.8	3.4	3.3	3.5	3.55	3.5
6	4.4	—	4.45	4.05	4.15	4.2	3.8	3.35	3.4	3.5	3.55	3.5
7	4.5	—	4.45	4.0	4.1	4.25	3.05	3.3	3.4	3.5	3.55	4.4
8	4.5	—	—	4.0	4.1	4.5	3.5	3.3	3.4	3.5	3.5	4.4
9	4.5	—	4.4	4.1	4.1	4.05	3.4	3.3	3.4	3.5	3.55	4.5
10	4.5	—	—	4.1	4.1	4.6	3.45	3.3	3.4	3.5	3.55	4.25
11	4.0	4.0	4.4	4.1	4.05	4.6	3.5	3.3	3.4	3.5	3.55	—
12	4.0	—	4.4	4.1	4.05	4.7	3.5	3.3	3.35	—	3.55	—
13	—	4.45	4.7	4.1	4.0	4.0	3.05	3.3	3.35	3.5	3.5	—
14	4.0	4.45	4.4	4.1	4.0	5.0	3.7	3.3	3.35	3.5	3.55	4.35
15	—	—	4.4	4.15	4.0	4.8	3.7	3.3	3.35	3.5	3.55	—
16	—	—	4.45	4.2	3.0	4.7	3.7	3.3	3.35	3.5	3.55	—
17	4.7	—	4.45	4.2	3.0	4.75	3.05	3.3	3.35	.5	3.5	4.6
18	—	4.45	4.4	4.2	4.0	4.0	3.0	3.3	3.35	.5	—	—
19	—	—	4.4	4.2	3.0	5.05	3.0	3.3	3.45	.5	3.55	—
20	—	—	4.4	4.2	3.0	4.95	3.0	3.2	3.5	.5	3.55	—
21	4.7	—	4.4	4.2	3.0	4.8	3.0	3.2	3.5	.5	3.5	4.0
22	—	4.7	4.3	4.2	3.0	4.05	3.55	3.2	3.5	.5	3.55	—
23	—	—	4.3	—	3.05	4.35	3.6	3.2	3.5	.5	3.55	—
24	4.8	—	4.2	4.2	3.05	4.2	3.5	3.2	3.5	5	3.55	—
25	—	4.7	—	4.2	3.05	4.1	3.5	3.2	3.5	55	3.55	3.8
26	—	—	4.2	4.2	3.0	4.0	3.4	3.2	3.45	55	3.55	—
27	—	—	4.8	4.2	4.2	3.0	3.05	3.4	3.2	3.5	55	—
28	4.7	—	4.2	4.2	3.8	4.0	3.35	3.3	3.45	55	3.5	3.8
29	—	—	4.2	4.2	3.8	3.05	3.3	3.3	3.5	0	3.3	—
30	4.8	—	4.2	4.1	3.8	3.0	3.4	3.4	3.5	55	3.2	—
31	—	—	4.2	—	3.75	—	3.35	3.3	—	55	—	4.0

Note.—River frozen January 1 to about March 14 and December 7 to 31. During this period the readings were to the water surface in a hole cut in the ice.

The following thickness of ice was recorded:

	Thickness in feet.		Thickness in feet.
January 4	0.75	February 11	1.1
January 8	1.0	February 18	1.2
January 21	1.2	February 22	1.2
January 24	1.2	February 25	1.3
January 28	1.2	February 27	1.3
February 4	1.1	March 2	1.2
February 5	1.1	March 6	0.7

March 11, ice nearly gone. March 18, no ice at gage.

STATION RATING TABLE  
For Bear River at Dingle, Idaho, from March 11 to December 6, 1905.

Gage height.	Discharge.	Gage height.	Discharge.	Gage height.	Discharge.	Gage height.	Discharge.
Feet.	Sec.-feet.	Feet.	Sec.-feet.	Feet.	Sec.-feet.	Feet.	Sec.-feet.
3.10	60	3.00	200	4.70	590	5.50	1,002
3.20	75	4.00	295	4.80	635	5.60	1,085
3.30	90	4.10	330	4.90	685	5.70	1,155
3.40	110	4.20	370	5.00	740	5.80	1,230
3.50	135	4.30	410	5.10	790	5.90	1,300
3.60	160	4.40	455	5.20	840	6.00	1,375
3.70	190	4.50	495	5.30	895	6.10	1,400
3.80	225	4.60	540	5.40	955		

The above table is applicable only for open-channel conditions. It is based on 11 discharge measurements made during 1903-1905. It is well defined between gage heights 3.5 feet and 7.4 feet. Above gage height 6.1 feet the rating curve is a tangent, the difference being 00 per tenth.

The above table is the same as that used for 1904.

ESTIMATED MONTHLY DISCHARGE  
Of Bear River at Dingle, Idaho, for 1905.

Month.	Discharge in second-feet.			Total in acre-feet.
	Maximum.	Minimum.	Mean.	
January	310	180	250	15,920
February	310	195	250	14,380
March	500	180	365	22,440
April	370	205	348	20,710
May	370	208	294	18,080
June	705	190	467	27,700
July	242	90	157	0,054
August	110	75	89	5,472
September	135	90	113	6,724
October	100	135	138	8,485
November	100	75	141	8,300
December 1-6	147	135	137	1,030
The period	705	76	231	159,700

Note.—Discharge interpolated for days when the gage was not read.

Estimates for January, February, and March corrected for effect of ice. They are merely approximate.

**MONTHLY DISCHARGE**  
In thousands of acre feet of Bear River at Dingle, Idaho.

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.	Total
1903	—	—	—	—	45.72	70.16	28.16	11.74	8.03	9.78	12.20	13.40	—
1904	5.37	12.37	52.51	63.02	141.50	129.50	43.73	18.75	16.13	17.03	20.17	10.80	530.90
1905	15.92	14.38	22.44	20.71	18.08	27.79	9.65	5.47	6.72	8.49	8.39	1.63	159.70
Mean	10.65	13.38	37.98	41.87	68.43	75.82	27.18	11.65	10.49	11.77	13.59	11.01	349.80

**MEASUREMENTS OF TRIBUTARIES**  
Of Bear Lake, Idaho, in 1903.

			See. Ft.
Oct. 6	W. P. Hardesty	Big Creek	11
Do	do	Spring Creek	14
Do	do	Bloomington Creek	9
Sept. 27	do	Paris Creek	31

**MISCELLANEOUS MEASUREMENTS**  
In Bear River basin in 1904.  
[By C. Tanner, W. G. Swendsen, and H. S. Kleinschmidt.]

Date.	Stream.	Locality	Width	Area of sec- tion.	Mean veloc- ity.	Gage height.	Dis- charge.
			Feet.	Square feet.	Ft. per second	Feet.	See- feet.
Nov. 7	North Branch of St. Charles Cr.	One-fourth mile east of road	10	8.8	1.50	—	14
May 6	Fish Haven Cr'k No. 5	Fish Haven, Idaho	9	10	2.72	—	27
June 10	do	do	9	15	2.77	—	41
Nov. 8	do	do	12	5.2	1.23	—	6
Dec. 21	do	do	12	7.1	1.37	—	10
May 6	Swan Cr'k No. 6	3 miles south of Fishhaven on county road	13	32	3.93	—	126
June 10	do	do	13	38	4.03	—	178
June 20	do	do	13	34	2.48	—	84
Nov. 8	do	At lake	25	24	1.82	—	43
Dec. 21	do	On county road	18	30	1.44	—	44
May 6	Laketown Creek (wthr) Nos. 7-9	Near Laketown	10	—	—	—	50
Nov. 8	Spring Creek	Laketown, Idaho	10	11	.00	—	10
May 7	North Eden Cr'k No. 11	North Eden, Idaho	4.5	3.8	1.00	—	7
May 8	Stephen's Slough	Dingle, Idaho	16	60	2.70	—	160
July 7	Power canal left side Bear Rv.	Bear River Canyon	21	84	1.87	—	157
June 4	Logan and Hyde Park canal	Logan, Utah	10	10	3.72	5.1	72
July 3	do	do	10	23	3.24	5.5	74

## Miscellaneous Measurements in Bear River Basin in 1904.—Continued.

Date.	Stream	Locality	Width	Area of section.	Mean velocity.	Gage height.	Discharge.	
			Feet.	Square feet.	Ft. per second	Feet.	Sec.-feet.	
Dec. 17	do	do	9.0	14	.72	----	10	
Nov. 7	Bear Lake outlet, flowing into Bear Lake this date	Bridge on turnpike	38	152	.26	----	40	
May 5	Ovid Cr'k No. 1	Ovid, Idaho	65	185	1.95	----	362	
June 9	do	do	58	73	2.13	----	157	
June 28	do	do	12	39	.61	----	24	
Dec. 21	do	do	10	9.0	1.16	----	10	
May 5	Paris Cr'k No. 2	Paris, Idaho	25	23	2.42	----	55	
June 10	do	do	28	41	2.55	----	106	
June 30	do	do	20	20	1.12	----	23	
Nov. 8	Paris Cr'k No. 2	Paris, Idaho	25	18	.96	----	17	
Dec. 21	do	do	42	24	1.24	----	28	
May 5	Bloomington Cr'k No. 3	Bloomington, Idaho	22	22	2.50	----	52	
June 10	do	do	12	17	2.79	----	47	
June 28	do	do	30	24	2.16	----	52	
Nov. 8	do	do	16	14	2.31	----	33	
Dec. 21	do	do	18	12	1.74	----	22	
May 5	3 creeks between Bloomington and St. Charles	St. Charles Cr'k No. 4	St. Charles, Idaho	41	62	2.31	----	54
June 10	do	do	43	66	3.35	----	142	
June 20	do	do	44	62	1.77	----	222	
Nov. 8	do	do	18	9.6	1.77	----	17	
Dec. 21	do	do	22	21	1.33	----	28	

## Bear River at Soda Springs.

During 1896 a gaging station was maintained at Soda Springs, Idaho. This station was located at the highway bridge crossing Bear River just west of the town of Soda Springs.

### DISCHARGE MEASUREMENTS Of Bear River at Soda Springs, Idaho, in 1896.

Date.	Hydrographer.	Gage height.	Discharge.
		Feet.	Second-feet.
March 8	J. F. Mills	5.00	304
June 11	L. B. Kendall	8.30	5,027

### DAILY GAGE HEIGHT Of Bear River at Soda Springs, Idaho, for 1896.

Day.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
1								5.00		5.35		
2						7.53			5.10			
3								5.85				
4								5.80	5.35			
5						7.70	7.40		5.30			
6							7.30	5.70				
7						7.93	7.00	5.05	5.30			
8							6.00					
9						8.40	6.00		5.30			
10						8.32	6.30	5.00				
11							6.00		5.30			
12								5.50				
13						8.30	6.00					
14							6.00	5.50	5.30			
15						8.40	6.00	5.40				
16									5.30			
17						8.20	6.00	5.30				
18									5.30			
19						8.00		5.40				
20						7.00	6.85					
21								5.40	5.30			
22						7.80	6.80	5.40				
23									5.35			
24						7.70	5.80	5.45				
25						0.60				5.40		
26						0.62	7.00		5.40			
27							5.80					
28								5.40	5.35			
29							5.80	5.40				
30						7.10			5.40	5.35		
31							5.05					

**ESTIMATED MONTHLY DISCHARGE  
Of Bear River, at Soda Springs, Idaho, for 1896.  
(Drainage area, 3,940 square miles.)**

Month.	Discharge in Second-Feet.			Total in Acre Feet.	Run-Off.	
	Maximum.	Minimum.	Mean.		Sec.-ft. per Sq. mile.	Depth in Inches.
May 25-31	2,370	1,605	1,880	26,100	0.48	0.13
June	6,380	3,385	4,605	274,016	1.17	1.31
July	3,155	875	1,305	85,775	0.35	0.40
August	960	525	675	41,495	0.17	0.20
September	585	525	542	32,251	0.14	0.16

### Bear River near Preston, Idaho.

This station was established October 11, 1889. It is located about six miles from Preston, Idaho, ten miles north of the Idaho-Utah boundary line and about 300 feet below the county road crossing at the old bridge of the Oregon Short Line Railroad. The data collected at this station are of extreme importance as showing the amount of water that passes from Idaho into Utah, and will be of great value in the final adjudication of water rights on the stream.

The channel is straight for about 250 feet above and below the station. Both banks are barren and are sufficiently high to prevent overflow. The bed of the stream is of gravel and clay and is permanent. A light growth of moss near the north side of the gaging station interferes slightly with summer records; otherwise the conditions are good. The stream is ice covered from about the end of December to the middle of February. There is no needle ice and but little fluctuation.

Discharge measurements are made by means of a cable and car, rebuilt in 1904. The cable has a span of about 250 feet, and is marked at 10 foot intervals with red paint. The initial point for soundings is the north post supporting the cable.

The gage, which is read daily by Mrs. Hannah Nelson, was originally of the vertical type, and consisted of a board nailed to a pile of the highway bridge. This was replaced August 4, 1899, by a wire gage, which proved unsatisfactory, and October 31, 1903, a new temporary gage was again attached to the bridge pile. In December, 1904, a new inclined gage was established at a point about 50 feet below the bridge. It consists of a piece of 8 by 8 inch fir, supported by three vertical double posts. The bench mark is a United States Geological Survey standard metallic post, set flush with the surface of the ground at a point about 8 feet upstream from the south post supporting the cable; elevation above zero of

gage, 7.428 feet. All readings have been reduced as nearly as possible to the same datum.

Information in regard to this station is contained in the following publications of the United States Geological Survey (Ann—Annual Report; Bull—Bulletin; WS—Water Supply Paper):

Description: Ann 14, ii, pp 118-119; 18 iv, p 313; Bull 131, p 53; 140, pp 225; WS 16, p 157; 28, p 146; 38, pp 332-333; 51 p 409; 66, p 117; 85, p 82; 100, pp 133-134; 133, p 241.

Discharge: Ann 18, iv, p 314; Bull 131, pp 53, 92; 140, p 226; WS 16, p 157; 28, p 153; 35, pp 18-19; 38, p 333; 51, p 409; 66, p 117; 85, p 83; 100, p 134; 133, p 241.

Discharge, monthly: Ann 11, ii, p 102; 12, ii, pp 352, 360; 13, iii, p 96; 14, ii, p 119; 18, iv, p 315; 19, iv, p 432; 20, iv, p 459; 21, iv, p 394; 22, iv, p 407; Bull 140, p 227; WS 75, p 191; 85, p 84; 133, p 243.

Discharge, yearly: Ann 11, ii, p 69; 13, p 99; 20, iv, p 60.

Gage Heights: Bull 131, pp 54-55; 140, p 226; WS 11, p 76; 16, p 157; 28, p 149; 38, p 334; 51, p 410; 66, p 117; 85, p 83; 100, p 134; 133, p 242.

Hydrographs: Ann 12, ii, p 330; 14, ii, p 118; 18, iv, p 316; 19, iv, p 433; 20, iv, p 460; 22, iv, p 407; 75, p 191.

Rating Tables: Ann 18, iv, p 314; 19, iv, p 432; Bull 131, p 54; 140, p 226; WS 28, p 154; 39, p 452; 52, p 521; 66, p 176; 85, p 84; 133, p 242.

**ESTIMATED MONTHLY DISCHARGE  
Of Bear River near Preston, Idaho, for 1880.  
(Drainage area, 4,500 square miles.)**

Month.	Discharge in Second-Feet.			Total in Acre Feet.	Run-Off.	
	Maximum.	Minimum.	Mean.		Sec.-ft. per Sq. mile.	Depth in Inches.
October 11-31...	480	300	355	21,832	0.07	0.00
November -----	830	430	487	28,070	0.11	0.12
December -----	735	350	505	34,747	0.13	0.14

**ESTIMATED MONTHLY DISCHARGE**  
**Of Bear River, near Preston, Idaho, for 1890.**  
 (Drainage area, 4,500 square miles.)

Month.	Discharge in Second-Feet.			Total in Acre Feet.	Run-Off.	
	Maximum.	Minimum.	Mean.		Sec.-ft. per Sq. mile.	Depth in Inches.
January -----	1,255	270	875	53,812	0.19	0.22
February -----	2,040	600	809	44,930	0.18	0.18
March -----	2,040	780	1,271	78,166	0.28	0.32
April -----	3,960	2,170	1,298	177,191	0.66	0.74
May -----	5,980	3,960	5,109	319,738	1.00	1.33
June -----	5,980	2,300	4,074	245,000	0.91	1.02
July -----	2,170	1,200	1,582	97,293	0.35	0.40
August -----	1,200	880	1,000	61,500	0.22	0.26
September -----	880	780	843	50,150	0.19	0.21
October -----	880	780	854	52,500	0.19	0.22
November -----	880	780	783	46,600	0.17	0.19
December -----	780	690	748	46,000	0.17	0.19
The year-----	5,980	270	1,751	1,270,272	0.42	5.27

**ESTIMATED MONTHLY DISCHARGE**  
**Of Bear River near Preston, Idaho, for 1891.**  
 (Drainage area, 4,500 square miles.)

Month.	Discharge in Second-Feet.			Total in Acre Feet.	Run-Off.	
	Maximum.	Minimum.	Mean.		Sec.-ft. per Sq. mile.	Depth in Inches.
January -----	600	600	600	42,435	0.16	0.18
February -----	-----	-----	780	43,200	0.17	0.18
March -----	880	780	700	48,585	0.17	0.20
April -----	2,050	780	1,023	90,509	0.36	0.40
May -----	3,030	2,440	2,652	103,093	0.50	0.48
June -----	2,870	1,000	2,245	133,578	0.50	0.56
July -----	1,000	680	1,288	70,213	0.20	0.33
August -----	680	780	835	51,352	0.19	0.21
September -----	680	690	708	47,481	0.18	0.20
October -----	680	690	690	60,270	0.22	0.25
November -----	680	880	957	50,401	0.21	0.24
December -----	1,910	880	1,053	61,769	0.23	0.27
The year-----	3,030	600	1,224	897,511	0.27	3.70

**ESTIMATED MONTHLY DISCHARGE  
Of Bear River near Preston, Idaho, for 1892.  
(Drainage area, 4,500 square miles.)**

Month.	Discharge in Second-Feet.			Total in Acre Feet.	Run-Off.	
	Maximum.	Minimum.	Mean.		Sec.-ft. per Sq. mle.	Depth in Inches.
January -----	800	800	800	49,200	0.18	0.21
February -----	880	780	855	49,162	0.19	0.20
March -----	1,540	880	1,304	80,190	0.20	0.33
April -----	2,040	1,540	1,824	108,528	0.41	0.45
May -----	4,370	2,040	2,710	166,665	0.60	0.69
June -----	5,260	3,200	4,446	265,537	0.99	1.10
July -----	3,200	1,540	2,345	144,217	0.52	0.60
August -----	1,420	880	1,025	63,037	0.23	0.26
September -----	880	780	793	47,183	0.18	0.20
October -----	780	780	780	47,970	0.17	0.20
November -----	780	600	697	40,876	0.15	0.17
December -----	880	880	880	54,120	0.20	0.23
The year -----	5,260	600	1,537	1,115,691	0.34	4.61

**DAILY GAGE HEIGHT  
Of Bear River near Preston, Idaho, for 1893.**

Day.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
1-----	1.60	1.70	1.50	2.10	3.10	3.60	3.10	1.60	1.40	1.40	1.60	1.80
2-----	1.60	1.70	1.50	2.20	3.10	3.60	3.00	1.50	1.40	1.40	1.60	1.80
3-----	1.60	1.70	1.50	2.20	3.20	3.60	3.00	1.50	1.40	1.40	1.60	1.80
4-----	1.60	1.70	1.50	2.30	3.20	3.70	2.90	1.50	1.40	1.40	1.60	1.80
5-----	1.60	1.70	1.50	2.40	3.20	3.70	2.80	1.50	1.40	1.40	1.60	1.80
6-----	1.60	1.70	1.60	2.45	3.20	3.70	2.70	1.50	1.40	1.40	1.60	1.80
7-----	1.60	1.70	1.50	2.50	3.20	3.70	2.70	1.50	1.40	1.40	1.60	1.80
8-----	1.60	1.70	1.50	2.50	3.25	3.80	2.60	1.50	1.40	1.40	1.60	1.80
9-----	1.60	1.70	1.50	2.50	3.30	3.80	2.50	1.50	1.40	1.40	1.60	1.80
10-----	1.60	1.70	1.50	2.50	3.30	3.80	2.50	1.50	1.40	1.40	1.60	1.80
11-----	1.60	1.70	1.50	2.60	3.30	3.80	2.40	1.50	1.40	1.40	1.60	1.80
12-----	1.60	1.70	1.60	2.60	3.40	3.80	2.30	1.50	1.40	1.40	1.60	1.70
13-----	1.60	1.60	1.50	2.60	3.40	3.70	2.30	1.50	1.40	1.40	1.60	1.70
14-----	1.60	1.60	1.50	2.60	3.40	3.70	2.20	1.50	1.40	1.40	1.60	1.70
15-----	1.60	1.60	1.50	2.60	3.40	3.60	2.20	1.50	1.40	1.40	1.60	1.70
16-----	1.60	1.60	1.50	2.60	3.50	3.60	2.10	1.50	1.40	1.50	1.60	1.70
17-----	1.60	1.60	1.60	2.60	3.50	3.60	2.10	1.50	1.40	1.50	1.60	1.70
18-----	1.60	1.60	1.60	2.60	3.60	3.60	2.00	1.50	1.40	1.50	1.60	1.70
19-----	1.60	1.60	1.60	2.70	3.70	3.60	2.00	1.50	1.40	1.60	1.60	1.70
20-----	1.60	1.60	1.60	2.80	3.70	3.60	1.90	1.50	1.40	1.50	1.60	1.70
21-----	1.60	1.60	1.60	2.85	3.70	3.60	1.90	1.50	1.40	1.50	1.60	1.70
22-----	1.60	1.60	1.60	2.90	3.80	3.60	1.80	1.50	1.40	1.50	1.60	1.70
23-----	1.70	1.60	1.00	2.90	3.80	3.60	1.80	1.50	1.40	1.50	1.60	1.70
24-----	1.70	1.60	1.60	3.00	3.80	3.60	1.80	1.50	1.40	1.60	1.60	1.70
25-----	1.70	1.60	1.60	3.00	3.80	3.50	1.70	1.50	1.40	1.50	1.60	1.70
26-----	1.70	1.60	1.60	3.00	3.80	3.40	1.70	1.50	1.40	1.50	1.60	1.70
27-----	1.70	1.60	1.70	3.00	3.80	3.40	1.70	1.50	1.40	1.50	1.60	1.70
28-----	1.70	1.60	1.00	3.10	3.80	3.30	1.60	1.40	1.40	1.50	1.70	1.70
29-----	1.70	1.60	1.00	3.10	3.80	3.20	1.60	1.40	1.40	1.50	1.70	1.70
30-----	1.70	2.00	3.10	3.70	3.20	1.60	1.40	1.40	1.50	1.70	1.70	1.70
31-----	1.70	2.00	3.70	3.70	3.00	1.60	1.40	1.40	1.60	1.70	1.70	1.70

**ESTIMATED MONTHLY DISCHARGE  
Of Bear River near Preston, Idaho, for 1893.  
(Drainage area, 4,500 square miles.)**

Month.	Discharge in Second-Feet.			Total In Acre Feet.	Run-Off.	
	Maximum.	Minimum.	Mean.		Sec.-ft. per Sq. mile.	Depth In Inches.
January	980	880	910	56,420	0.20	0.21
February	980	780	875	49,000	0.17	0.19
March	1,310	780	885	51,870	0.19	0.21
April	2,720	1,420	2,130	127,800	0.47	0.49
May	3,060	2,720	3,400	210,800	0.75	0.81
June	3,960	2,870	3,515	210,000	0.78	0.81
July	2,720	880	1,570	97,310	0.35	0.38
August	880	690	770	47,740	0.17	0.18
September	690	690	690	41,400	0.15	0.16
October	880	690	735	45,570	0.16	0.17
November	980	880	890	53,400	0.20	0.25
December	1,090	980	1,020	63,210	0.22	0.24
The year	3,060	780	1,480	1,058,480	0.33	0.40

**DISCHARGE MEASUREMENTS  
Of Bear River, near Preston, Idaho, in 1894.**

Date.	Hydrographer.	Gage height.		Discharge.
		Feet.	Second-feet.	
October 20	A. P. Davis	1.00	080	
November 30	S. Fortier	1.80	1,030	

**DAILY GAGE HEIGHT**  
Of Bear River near Preston, Idaho, for 1894.

Day.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
1	1.70	1.70	1.70	2.80	3.00	5.50	3.30	2.10	1.80	2.00	1.90	1.80
2	1.70	1.70	1.80	3.10	3.90	5.50	3.20	2.00	1.80	2.00	1.90	1.80
3	1.70	1.70	1.80	3.40	3.90	5.50	3.10	2.00	1.80	2.00	1.90	1.70
4	1.70	1.70	1.80	3.70	4.00	5.50	3.00	2.00	1.90	2.00	1.90	1.70
5	1.70	1.70	1.80	3.90	4.00	5.40	2.00	2.00	1.90	2.00	1.90	1.70
6	1.70	1.70	1.90	4.10	4.10	5.40	2.80	2.00	2.00	2.00	1.90	1.70
7	1.70	1.70	1.90	4.40	4.10	5.40	2.70	2.00	2.10	2.00	1.90	1.70
8	1.70	1.70	1.90	4.40	4.20	5.40	2.70	2.00	2.10	2.00	1.90	1.70
9	1.70	1.70	1.90	4.40	4.20	5.40	2.70	2.00	2.10	2.00	1.90	1.70
10	1.70	1.70	1.90	4.20	4.30	5.40	2.70	1.90	2.10	2.00	1.90	1.70
11	1.70	1.70	1.90	4.00	4.40	5.33	2.60	1.90	2.00	2.00	1.90	1.70
12	1.70	1.70	2.00	3.80	4.50	5.33	2.60	1.00	2.00	1.90	1.90	1.70
13	1.70	1.70	2.10	3.50	4.50	5.20	2.60	1.90	2.00	1.90	1.80	1.70
14	1.70	1.70	2.10	3.50	4.50	5.10	2.60	1.90	2.00	1.90	1.80	1.70
15	1.70	1.70	2.10	3.50	4.60	5.00	2.60	1.80	2.00	1.90	1.80	1.70
16	1.70	1.70	2.00	3.50	4.60	4.90	2.50	1.80	2.00	1.90	1.80	1.70
17	1.70	1.70	2.00	3.50	4.70	4.86	2.50	1.80	2.00	1.90	1.80	1.70
18	1.70	1.70	2.00	3.50	4.70	4.70	2.50	1.80	2.00	1.90	1.80	1.70
19	1.70	1.70	2.10	3.50	4.80	4.60	2.50	1.80	2.00	1.90	1.80	1.70
20	1.70	1.70	2.10	3.50	4.90	4.40	2.40	1.80	2.00	1.90	1.80	1.70
21	1.70	1.70	2.20	3.60	4.90	4.30	2.40	1.80	2.00	1.90	1.80	1.70
22	1.70	1.70	2.10	3.60	5.00	4.20	2.40	1.80	2.00	1.90	1.80	1.70
23	1.70	1.70	2.00	3.60	5.10	4.10	2.30	1.80	2.00	1.90	1.80	1.70
24	1.70	1.70	1.90	3.70	5.20	4.00	2.30	1.80	2.00	1.90	1.80	1.70
25	1.70	1.70	2.00	3.70	5.30	3.90	2.30	1.80	2.00	1.90	1.80	1.70
26	1.70	1.70	2.10	3.80	5.30	3.80	2.30	1.80	2.00	1.90	1.80	1.70
27	1.70	1.70	2.20	3.80	5.30	3.75	2.20	1.80	2.00	1.90	1.80	1.70
28	1.70	1.70	2.30	3.80	5.30	3.65	2.20	1.80	2.00	1.90	1.80	1.70
29	1.70	-----	2.40	3.80	5.40	3.50	2.20	1.80	2.00	1.90	1.80	1.70
30	1.70	-----	2.50	3.80	5.40	3.35	2.10	1.80	2.00	1.90	1.80	1.70
31	1.70	-----	2.60	-----	5.50	-----	2.10	1.80	-----	1.90	-----	1.70

**ESTIMATED MONTHLY DISCHARGE**  
Of Bear River, near Preston, Idaho, for 1894.  
(Drainage area, 4,500 square miles.)

Month.	Discharge in Second-Feet.			Total in Acre Feet	Run-Off.	
	Maximum	Minimum	Mean		Sec.ft. per Sq. mile.	Depth in Inches.
January	980	980	980	60,700	0.22	0.23
February	980	980	980	54,080	0.22	0.21
March	2,010	980	1,353	84,010	0.30	0.32
April	5,200	2,300	3,825	229,500	0.85	0.89
May	7,080	4,100	5,930	307,000	1.82	1.41
June	7,080	3,120	0,180	370,800	1.37	1.43
July	8,030	1,420	2,000	124,000	0.44	0.48
August	1,420	1,000	1,175	72,850	0.20	0.28
September	1,420	1,000	1,205	77,700	0.29	0.29
October	1,200	1,000	1,240	70,880	0.27	0.29
November	1,200	1,000	1,135	68,100	0.20	0.20
December	1,090	980	990	61,380	0.22	0.22
The year	7,080	800	2,200	1,048,320	0.60	0.31

**LIST OF DISCHARGE MEASUREMENTS  
Of Bear River, near Preston, Idaho, in 1895.**

Date.	Hydrographer.	Gage height. Feet.	Discharge. Second-feet.
April 6	J. L. Rhead	2.68	2,092
April 15	do	3.00	2,380
April 29	do	2.93	2,268
October 14	do	1.40	680

**DAILY GAGE HEIGHT  
Of Bear River, near Preston, Idaho, for 1895.**

Day.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
1	1.70	1.70	1.80	2.60	3.20	3.30	2.10	1.50	1.30	1.40	1.40	1.40
2	1.70	1.70	1.80	2.60	3.30	3.30	2.10	1.50	1.30	1.30	1.40	1.40
3	1.70	1.70	1.80	2.70	3.55	3.20	2.00	1.50	1.30	1.30	1.40	1.40
4	1.70	1.70	1.80	2.70	3.70	3.20	2.00	1.50	1.30	1.30	1.40	1.40
5	1.70	1.70	1.80	2.70	3.70	3.10	2.00	1.50	1.30	1.30	1.40	1.40
6	1.70	1.70	1.70	2.70	3.60	3.05	2.40	1.40	1.30	1.30	1.40	1.40
7	1.70	1.70	1.70	2.75	3.50	3.00	1.90	1.40	1.30	1.30	1.40	1.40
8	1.70	1.70	1.70	2.80	3.50	2.90	1.90	1.40	1.30	1.40	1.40	1.40
9	1.70	1.70	1.70	2.90	3.40	2.90	1.80	1.40	1.30	1.40	1.40	1.40
10	1.70	1.70	1.70	3.00	3.40	2.80	1.80	1.40	1.30	1.40	1.40	1.40
11	1.80	1.70	1.70	3.10	3.30	2.70	1.80	1.40	1.30	1.40	1.40	1.40
12	1.80	1.70	1.70	3.10	3.30	2.70	1.80	1.40	1.30	1.40	1.40	1.40
13	1.80	1.70	1.70	3.20	3.40	2.60	1.80	1.40	1.30	1.40	1.40	1.40
14	1.80	1.70	1.70	3.10	3.45	2.60	1.80	1.40	1.30	1.40	1.40	1.40
15	1.70	1.70	1.00	3.00	3.50	2.60	1.80	1.40	1.30	1.40	1.40	*
16	1.70	1.70	1.00	3.00	3.40	2.60	1.80	1.40	1.30	1.40	1.40	1.40
17	1.70	1.70	1.70	3.00	3.30	2.50	1.70	1.30	1.30	1.40	1.40	1.40
18	1.70	1.70	1.70	3.00	3.30	2.50	1.70	1.30	1.30	1.40	1.40	1.40
19	1.70	1.70	1.70	3.00	3.30	2.50	1.70	1.30	1.30	1.40	1.40	1.40
20	1.70	1.70	1.70	3.00	3.30	2.40	1.60	1.30	1.30	1.40	1.40	1.40
21	1.70	1.70	1.80	3.00	3.40	2.40	1.60	1.30	1.30	1.40	1.40	1.40
22	1.70	1.70	1.80	2.90	3.40	2.40	1.60	1.30	1.30	1.40	1.40	1.40
23	1.70	1.70	1.80	2.90	3.40	2.40	1.60	1.30	1.30	1.40	1.40	1.40
24	1.70	1.70	1.80	2.90	3.40	2.30	1.60	1.30	1.40	1.40	1.40	1.40
25	1.70	1.70	1.80	2.90	3.40	2.30	1.60	1.30	1.40	1.40	1.40	1.40
26	1.70	1.70	1.80	2.90	3.40	2.25	1.50	1.30	1.40	1.40	1.40	1.40
27	1.70	1.70	1.00	2.90	3.40	2.20	1.50	1.30	1.40	1.40	1.40	1.40
28	1.70	1.80	2.35	2.90	3.40	2.20	1.50	1.30	1.40	1.40	1.40	†
29	1.70	-----	2.60	2.95	3.40	2.20	1.50	1.30	1.40	1.40	1.40	1.40
30	1.70	-----	2.60	3.10	3.40	2.20	1.50	1.30	1.40	1.40	1.40	1.40
31	1.70	-----	2.00	-----	3.30	-----	1.50	1.30	-----	1.40	-----	1.40

\*Slush ice.

†Frozen over.

**ESTIMATED MONTHLY DISCHARGE  
Of Bear River, at Preston, Idaho, for 1895.  
(Drainage area, 4,500 square miles.)**

Month.	Discharge in Second-Feet.			Total in Acre Feet.	Run-Off.	
	Maximum.	Minimum.	Mean.		Sec.-ft. per Sq. mile.	Depth in Inches.
January -----	903	908	922	56,692	0.20	0.23
February -----	903	908	911	50,594	0.20	0.21
March -----	2,977	826	1,005	67,329	0.24	0.28
April -----	2,717	1,830	2,268	134,955	0.50	0.56
May -----	3,037	2,717	3,080	180,751	0.69	0.79
June -----	2,887	1,375	1,932	114,002	0.43	0.48
July -----	1,000	750	907	50,459	0.21	0.24
August -----	750	612	658	40,459	0.15	0.17
September -----	680	612	628	37,369	0.14	0.16
October -----	680	612	666	40,051	0.15	0.17
November -----			680	40,403	0.15	0.17
December -----			680	41,812	0.15	0.17
The year --	3,037	612	1,207	874,700	0.27	3.03

**DISCHARGE MEASUREMENTS  
Of Bear River, near Preston, Idaho, in 1896.**

Date.	Hydrographer.	Feet. Gage height.	Second-feet. Discharge.
May 21 -----	J. L. Rhend-----	2.00	2,254
June 23 -----	do-----	4.45	3,054
July 26 -----	do-----	2.06	1,090
September 5 -----	do-----	1.04	873
September 28 -----	do-----	1.03	737

**DAILY GAGE HEIGHT**  
Of Bear River, near Preston, Idaho, for 1896.

Day.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
1-----	1.40	1.30	1.40	2.30	2.70	4.45	3.60	2.10	1.60	1.60	1.70	2.60
2-----	1.40	1.30	1.40	2.40	2.80	4.65	3.45	2.10	1.60	1.60	1.70	1.90
3-----	1.40	1.30	1.40	2.50	2.80	4.70	3.25	2.00	1.60	1.60	1.70	1.90
4-----	1.40	1.30	1.40	2.60	2.80	4.70	3.10	2.00	1.60	1.60	1.80	1.90
5-----	1.40	1.30	1.40	2.60	2.80	4.80	2.95	2.00	1.60	1.60	1.80	1.90
6-----	1.40	1.30	1.40	2.70	2.90	4.90	2.80	1.90	1.60	1.60	1.80	-----
7-----	1.40	1.30	1.40	2.80	2.90	4.80	2.70	1.90	1.60	1.60	1.80	-----
8-----	1.40	1.30	1.40	2.80	3.00	5.05	2.70	1.80	1.60	1.60	1.80	-----
9-----	1.40	1.30	1.40	2.80	3.00	5.15	2.60	1.80	1.60	1.60	1.80	-----
10-----	1.40	1.30	1.40	2.70	3.00	5.45	2.60	1.80	1.60	1.60	1.80	-----
11-----	1.40	1.30	1.40	2.70	3.00	5.60	2.50	1.80	1.60	1.60	1.70	-----
12-----	1.40	1.30	1.40	2.70	3.00	5.50	2.50	1.80	1.60	1.60	1.70	-----
13-----	1.40	1.40	1.40	2.70	3.00	5.35	2.40	1.70	1.60	1.60	1.70	-----
14-----	1.40	1.40	1.40	2.70	3.00	5.20	2.40	1.70	1.60	1.60	1.70	-----
15-----	1.40	1.40	1.40	2.70	3.00	5.10	2.40	1.70	1.60	1.60	1.70	-----
16-----	1.40	1.40	1.40	2.70	3.00	5.00	2.30	1.70	1.60	1.60	1.70	1.80
17-----	1.40	1.40	1.40	2.70	3.00	5.00	2.30	1.70	1.60	1.60	1.70	1.80
18-----	1.40	1.40	1.40	2.70	2.90	4.90	2.20	1.70	1.60	1.60	1.80	-----
19-----	1.40	1.40	1.50	2.70	2.90	4.80	2.20	1.70	1.60	1.60	1.80	-----
20-----	1.40	1.40	1.50	2.70	2.80	4.80	2.20	1.70	1.60	1.60	1.80	-----
21-----	1.40	1.40	1.50	2.70	2.80	4.70	2.20	1.70	1.60	1.60	1.80	-----
22-----	1.40	1.40	1.60	2.60	2.70	4.60	2.10	1.70	1.60	1.60	1.80	-----
23-----	1.40	1.40	1.70	2.60	2.70	4.50	2.10	1.70	1.60	1.60	1.80	1.80
24-----	1.40	1.40	1.70	2.60	2.80	4.50	2.10	1.70	1.60	1.60	1.80	-----
25-----	1.40	1.40	1.80	2.00	2.90	4.40	2.10	1.70	1.60	1.60	1.80	-----
26-----	1.40	1.40	1.90	2.00	3.05	4.30	2.10	1.70	1.60	1.60	1.80	-----
27-----	1.40	1.40	2.00	2.60	3.25	4.20	2.10	1.70	1.60	1.60	1.70	2.00
28-----	1.40	1.40	2.10	2.70	3.50	4.05	2.10	1.70	1.60	1.60	1.70	2.00
29-----	1.30	-----	2.10	2.70	3.00	3.85	2.10	1.70	1.60	1.60	1.70	2.00
30-----	1.30	-----	2.20	2.70	4.05	3.70	2.10	1.60	1.60	1.60	1.70	2.00
31-----	1.30	-----	2.30	-----	4.25	-----	2.10	1.60	-----	1.70	-----	-----

**ESTIMATED MONTHLY DISCHARGE**  
Of Bear River, near Preston, Idaho, for 1896.  
(Drainage area, 4,500 square miles.)

Month.	Discharge in Second-Feet.			Total in Acre Feet	Run-Off.	
	Maximum	Minimum	Mean		Sec. ft. per Sq. mile.	Depth in Inches.
January -----	050	580	645	30,650	0.14	0.10
February -----	050	580	621	35,710	.14	.15
March -----	1,470	650	802	49,312	.18	.21
April -----	1,900	1,470	1,830	109,240	.42	.47
May -----	3,530	1,885	2,231	137,170	.50	.58
June -----	5,205	3,025	4,333	260,420	.90	1.07
July -----	2,000	1,255	1,650	101,451	.37	.43
August -----	1,255	800	917	50,381	.20	.23
September -----	800	800	800	47,603	.18	.20
October -----	875	800	812	49,927	.18	.21
November -----	1,780	875	1,000	63,210	.21	.28
December -----	1,780	970	1,024	62,063	.23	.26
The year --	5,205	580	3,897	1,021,691	0.31	4.25

**DISCHARGE MEASUREMENTS**  
Of Bear River, near Preston, Idaho, in 1897

Date.	Hydrographer.	Gage height.	Discharge.
		Feet.	Second-feet.
May 20	S. Fortier	5.05	5,700
June 17	do	3.50	2,527
July 28	do	1.75	917
August 23	do	1.50	692
October 20	do	1.00	1,027

**DAILY GAGE HEIGHT**  
Of Bear River, near Preston, Idaho, for 1897.

Day.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
1			1.70		4.00	5.00	2.50	1.70	1.00	1.00	1.00	1.00
2	1.80				4.10	4.00	2.50	1.70	1.00	1.00	1.00	1.00
3			2.00	4.20	4.80	2.45	1.70	1.80	1.80	1.90	1.90	1.00
4		1.70			4.20	4.70	2.40	1.70	1.70	1.80	1.00	1.50
5					4.30	4.70	2.40	1.70	1.00	1.80	1.00	1.70
6	1.80	1.70	1.70		4.40	4.70	2.40	1.70	1.00	1.80	1.00	1.80
7					4.50	4.60	2.40	1.70	1.00	1.80	1.00	1.90
8					4.50	4.60	2.40	1.70	1.00	1.80	1.00	1.00
9	1.80	1.70			4.50	4.50	2.30	1.70	1.00	1.80	1.00	1.00
10					2.50	4.50	4.10	2.20	1.70	1.00	1.80	1.00
11					2.60	4.60	4.40	2.20	1.70	1.00	1.80	1.00
12			1.70	2.70	4.00	4.40	2.20	1.70	1.00	1.80	1.00	1.00
13					2.80	4.60	4.30	2.20	1.70	1.00	2.00	1.00
14					2.00	4.60	4.30	2.20	1.70	1.00	2.20	1.00
15			1.70	3.00	4.00	4.20	2.20	1.70	1.00	2.20	1.00	1.80
16	1.80				3.10	4.00	4.10	2.20	1.70	1.00	2.10	1.00
17					3.20	5.00	3.50	2.10	1.70	1.00	2.00	1.00
18					3.30	5.00	3.40	2.00	1.70	1.00	2.00	1.00
19					3.40	5.00	3.30	2.00	1.70	1.00	2.00	1.00
20		1.70	1.70	3.50	5.10	3.20	2.00	1.70	1.00	2.00	1.00	1.70
21					3.60	5.10	3.10	2.00	1.60	1.00	2.00	2.00
22					3.70	5.15	3.00	1.00	1.00	1.00	2.00	2.00
23	1.80				3.80	5.20	3.00	1.00	1.60	1.00	2.00	2.10
24					3.00	5.15	3.00	1.80	1.00	1.00	2.00	2.10
25					4.00	5.20	2.00	1.00	1.60	1.00	2.00	2.00
26					4.20	5.25	2.00	1.80	1.00	1.00	2.00	2.00
27		1.70			4.30	5.30	2.80	1.80	1.00	1.00	2.00	2.00
28					4.40	5.25	2.05	1.80	1.00	1.00	2.00	2.00
29					2.00	4.30	5.15	2.00	1.00	1.00	1.00	1.00
30	1.70				4.20	5.10	2.55	1.80	1.00	1.00	2.00	1.00
31						5.10		1.80	1.00	1.00	1.00	1.00

**ESTIMATED MONTHLY DISCHARGE**  
 Of Bear River, near Preston, Idaho, for 1897.  
 (Draining area, 4,500 square miles.)

Month.	Discharge in Second-Feet.			Total in Acre Feet.	Run-Off.	
	Maximum.	Minimum.	Mean.		Sec.-ft. per Sq. mile.	Depth in Inches.
January			*950	58,414	.21	.24
February			*870	48,317	.19	.20
March			*900	55,339	.20	.23
April	4,300	1,108	2,923	173,030	.65	.72
May	6,100	3,570	5,002	311,252	1.12	1.29
June	5,500	1,847	3,593	213,798	.80	.89
July	4,788	970	1,335	.82,056	.30	.35
August	870	780	838	51,527	.19	.22
September	970	780	789	46,049	.18	.20
October	1,434	780	1,115	68,559	.25	.29
November	1,316	1,080	1,127	67,061	.25	.28
December	1,080	780	970	60,197	.25	.29
The year			1,707	1,237,429	.38	5.20

\*Approximate.

**DAILY GAGE HEIGHT**  
 Of Bear River, near Preston, Idaho, for 1898.

Day.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
1	1.50	2.00	1.85	1.00	3.70	3.70	2.70	1.50	1.40	1.40	1.00	1.60
2	1.00	2.00	1.85	1.00	3.70	3.70	2.60	1.50	1.40	1.40	1.00	1.00
3	1.00	2.00	1.00	2.00	3.60	3.60	2.60	1.50	1.40	1.40	1.00	1.00
4	1.00	2.00	1.90	2.00	3.60	3.60	2.50	1.50	1.40	1.40	1.00	1.00
5	1.00	2.05	1.95	2.10	3.60	3.60	2.50	1.40	1.40	1.40	1.00	1.00
6	1.00	1.00	1.05	2.20	3.60	3.50	2.50	1.40	1.40	1.40	1.00	1.00
7	1.00	1.00	1.05	2.40	3.55	3.50	2.40	1.40	1.40	1.40	1.00	1.00
8	1.00	1.00	1.05	2.50	3.50	3.50	2.30	1.40	1.40	1.40	1.00	1.00
9	1.00	1.00	2.00	2.70	3.50	3.40	2.30	1.40	1.40	1.40	1.00	1.00
10	1.00	1.00	2.00	3.00	3.50	3.40	2.20	1.40	1.40	1.40	1.00	1.00
11	1.00	1.00	1.00	3.20	3.45	3.40	2.20	1.40	1.40	1.40	1.00	1.00
12	2.00	1.00	1.00	3.20	3.40	3.40	2.20	1.40	1.40	1.40	1.00	1.00
13	2.10	1.80	1.00	3.20	3.40	3.30	2.10	1.40	1.40	1.40	1.00	1.00
14	2.10	1.70	1.00	3.30	3.35	3.30	2.10	1.40	1.40	1.40	1.00	1.00
15	2.10	1.70	1.00	3.30	3.30	3.30	2.10	1.40	1.40	1.50	1.00	1.00
16	2.10	1.60	1.00	3.40	3.30	3.20	2.10	1.40	1.40	1.50	1.00	1.00
17	2.10	1.60	1.00	3.40	3.35	3.00	2.00	1.40	1.40	1.50	1.00	1.00
18	2.10	1.60	1.00	3.50	3.40	3.00	2.00	1.40	1.40	1.50	1.00	1.00
19	2.10	1.60	1.00	3.60	3.50	3.00	1.90	1.40	1.40	1.50	1.00	1.00
20	2.10	1.60	1.00	3.70	3.50	3.00	1.80	1.40	1.40	1.50	1.00	1.00
21	2.10	1.60	1.00	3.70	3.50	3.00	1.80	1.40	1.40	1.50	1.00	1.00
22	2.10	1.60	1.00	3.80	3.50	3.00	1.80	1.40	1.40	1.50	1.00	1.00
23	2.00	1.60	1.60	3.90	3.40	2.00	1.80	1.40	1.40	1.50	1.00	1.00
24	2.00	1.00	1.00	3.90	3.40	2.00	1.70	1.40	1.40	1.50	1.00	1.00
25	2.00	1.00	1.80	3.90	3.30	2.00	1.70	1.40	1.40	1.50	1.00	1.00
26	2.00	1.70	1.80	3.85	3.40	2.00	1.70	1.40	1.40	1.50	1.00	1.00
27	2.00	1.70	1.70	3.80	3.50	2.00	1.70	1.40	1.40	1.50	1.00	1.00
28	2.00	1.80	1.70	3.80	3.60	2.80	1.60	1.40	1.40	1.50	1.00	1.00
29	2.00	1.80	1.80	3.70	3.70	2.70	1.60	1.40	1.40	1.50	1.00	1.00
30	2.00	1.80	1.80	3.70	3.70	2.70	1.60	1.40	1.40	1.50	1.00	1.00
31	2.00	1.00	1.00	3.70	3.70	2.70	1.50	1.40	1.40	1.50	1.00	1.00

**ESTIMATED MONTHLY DISCHARGE  
Of Bear River, near Preston, Idaho, for 1898.  
(Drainage area, 4,500 square miles.)**

Month.	Discharge in Second-Feet.			Total in Acre Feet.	Run-Off.	
	Maximum	Minimum	Mean		Sec.-ft. per Sq. mile.	Depth in Inches.
January -----	1,038	870	950	58,414	0.21	0.24
February -----	950	660	783	43,486	0.17	0.18
March -----	950	725	845	51,057	0.19	0.22
April -----	3,483	870	2,377	141,441	0.53	0.59
May -----	3,125	2,409	2,788	171,429	0.62	0.71
June -----	3,125	1,635	2,342	139,358	0.52	0.58
July -----	1,635	598	1,017	62,533	0.23	0.26
August -----	598	535	543	33,388	0.12	0.14
September -----	535	535	535	31,835	0.12	0.13
October -----	600	535	582	35,786	0.13	0.15
November -----	600	600	600	39,273	0.15	0.17
December -----	600	600	600	40,582	0.15	0.17
The year -----	3,483	535	1,174	849,482	0.26	3.54

**LIST OF DISCHARGE MEASUREMENTS  
Of Bear River, near Preston, Idaho, for 1898.**

Date.	Hydrographer.	Gage height. Feet.	Discharge. Second-feet.
March 28 -----	J. S. Baker-----	1.75	773
May 8 -----	G. L. Swendsen-----	3.25	2,370
July 3 -----	do-----		4,781
August 4 -----	do-----	3.01	1,732
December 4 -----	do-----	2.21	1,312

**DAILY GAGE HEIGHT**  
Of Bear River, near Preston, Idaho, for 1899.

Day.	Jan.	Feb.	Mar.	Apr.	May	June	July*	Aug.	Sept.	Oct.	Nov.	Dec.
1-----	1.60	1.60	1.50	1.90	3.50	4.10	----	----	2.10	2.00	2.20	2.20
2-----	1.60	1.60	1.50	1.90	3.50	4.10	----	----	2.10	2.00	2.20	2.20
3-----	1.60	1.60	1.50	2.00	3.40	4.10	----	----	2.10	2.00	2.20	2.20
4-----	1.60	1.60	1.50	2.00	3.40	4.10	----	3.10	2.10	2.00	2.20	2.20
5-----	1.60	1.60	1.50	2.15	3.40	4.10	----	3.00	2.10	2.00	2.20	2.10
6-----	1.60	1.60	1.50	2.15	3.30	4.15	----	3.00	2.10	2.00	2.20	2.10
7-----	1.60	1.60	1.50	2.15	3.20	4.20	----	2.90	2.10	2.00	2.20	2.00
8-----	1.60	1.60	1.50	2.25	3.20	4.20	----	2.90	2.10	2.00	2.20	1.90
9-----	1.60	1.60	1.50	2.60	3.30	4.20	----	2.90	2.10	2.00	2.20	1.90
10-----	1.60	1.60	1.50	2.85	3.40	4.25	----	2.90	2.10	2.00	2.20	1.80
11-----	1.60	1.60	1.50	2.90	3.40	4.30	----	2.90	2.10	2.00	2.20	1.70
12-----	1.60	1.60	1.50	3.10	3.50	4.30	----	2.90	2.10	2.00	2.40	2.30
13-----	1.60	1.60	1.50	3.45	3.60	4.30	----	2.90	2.10	2.15	2.40	2.20
14-----	1.60	1.60	1.50	3.55	3.60	4.40	----	2.90	2.10	2.20	2.40	2.20
15-----	1.60	1.60	1.50	3.60	3.60	4.40	----	2.80	2.10	2.20	2.40	2.10
16-----	1.60	1.60	1.50	3.50	3.60	4.40	----	2.80	2.10	2.20	2.40	2.10
17-----	1.60	1.60	1.50	3.50	3.60	4.40	----	2.79	2.10	2.20	2.40	2.10
18-----	1.60	1.50	1.50	3.40	3.70	4.40	----	2.70	2.10	2.20	2.40	2.00
19-----	1.60	1.50	1.50	3.45	3.80	4.40	----	2.60	2.10	2.20	2.40	2.00
20-----	1.60	1.50	1.60	3.30	3.80	4.40	----	2.60	2.10	2.20	2.40	2.00
21-----	1.60	1.50	1.60	3.30	3.80	4.40	----	2.50	2.10	2.20	2.30	1.90
22-----	1.60	1.50	1.60	3.30	3.80	4.50	----	2.50	2.10	2.30	2.30	1.90
23-----	1.60	1.50	1.60	3.40	3.80	4.50	----	2.40	2.10	2.30	2.30	1.90
24-----	1.60	1.50	1.65	3.40	3.80	4.50	----	2.30	2.00	2.30	2.30	1.90
25-----	1.60	1.50	1.90	3.40	3.90	4.60	----	2.30	2.00	2.30	2.30	1.90
26-----	1.60	1.50	1.90	3.45	3.90	4.60	----	2.30	2.00	2.30	2.20	1.90
27-----	1.60	1.50	1.80	3.50	3.90	4.60	----	2.20	2.00	2.30	2.20	1.90
28-----	1.60	1.50	1.80	3.50	3.90	4.60	----	2.20	2.00	2.30	2.20	1.90
29-----	1.60	-----	1.80	3.50	4.00	4.70	----	2.20	2.00	2.20	2.20	1.90
30-----	1.60	-----	1.80	3.50	4.00	4.70	----	2.20	2.00	2.20	2.20	1.90
31-----	1.60	-----	1.80	-----	4.00	-----	----	2.20	-----	2.20	-----	1.90

\*Missing.

**ESTIMATED MONTHLY DISCHARGE**  
Of Bear River, near Preston, Idaho, for 1899.  
(Drainage area, 4,500 square miles.)

Month.	Discharge in Second-Feet.			Total In Acre Feet.	Run-Off.	
	Maximum.	Minimum.	Menn.		See. ft. per Sq. mile.	Depth in Inches.
January -----	600	600	600	40,582	0.15	0.17
February -----	660	597	635	35,260	0.14	0.11
March -----	870	597	657	40,397	0.15	0.17
April -----	2,945	870	2,133	126,022	0.47	0.53
May -----	3,812	2,312	3,020	180,061	0.07	0.77
June 1-20 -----	5,011	3,812	4,325	257,355	0.90	1.07
July -----	Miss. Ing.					
September 4-31	1,035	1,260	1,560	66,474	0.35	0.40
October -----	1,325	1,140	1,227	75,445	0.27	0.31
November -----	1,390	1,260	1,310	77,050	0.20	0.32
December -----	1,325	980	1,140	70,610	0.20	0.30

**DISCHARGE MEASUREMENTS**  
Of Bear River, near Preston, Idaho, in 1900.

Date.	Hydrographer.	Gage height. Feet.	Discharge. Second-feet.
February 12	G. L. Swendsen	1.75	958
March 20	do	2.95	1,880
April 23	do	2.88	1,585
May 28	do	3.50	2,232
June 26	do	2.15	973
July 27	do	1.57	543
August 31	do	1.40	487
September 26	do	1.60	604
October 20	do	1.70	627
November 5	do	1.75	602
December 22	do	1.85	604

**DAILY GAGE HEIGHT**  
Of Bear River, near Preston, Idaho, for 1900.

Day.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
1	1.00	2.00	1.85	2.70	3.35	3.40	1.95	1.50	1.35	1.00	1.75	1.80
2	1.00	1.00	1.00	2.70	3.40	3.40	1.00	1.50	1.35	1.00	1.75	1.80
3	1.00	1.00	1.05	2.80	3.40	3.45	1.00	1.50	1.35	1.00	1.75	1.80
4	2.10	1.00	1.05	2.80	3.45	3.45	1.85	1.50	1.35	1.00	1.75	1.80
5	2.10	1.80	2.05	2.80	3.45	3.40	1.85	1.50	1.35	1.00	1.75	1.80
6	2.00	1.80	2.05	2.80	3.50	3.40	1.80	1.50	1.35	1.00	1.75	1.80
7	2.00	1.70	2.05	2.83	3.50	3.35	1.80	1.50	1.35	1.00	1.75	1.80
8	2.00	1.00	2.23	2.85	3.50	3.35	1.80	1.50	1.35	1.00	1.75	1.80
9	2.00	1.35	2.23	2.00	3.50	3.30	1.80	1.48	1.35	1.00	1.75	1.80
10	2.00	1.70	2.35	2.00	3.50	3.20	1.80	1.45	1.35	1.00	1.75	1.80
11	1.00	2.45	2.48	2.00	3.55	3.10	1.75	1.45	1.35	1.00	1.75	1.80
12	1.05	1.80	2.53	2.00	3.70	3.00	1.75	1.45	1.35	1.00	1.75	1.80
13	2.10	1.73	2.60	2.00	3.70	2.00	1.70	1.45	1.35	1.00	1.75	1.80
14	2.20	1.75	2.75	2.00	3.75	2.80	1.70	1.45	1.35	1.00	1.75	1.75
15	2.23	1.83	2.83	2.85	3.70	2.75	1.70	1.40	1.35	1.00	1.75	1.75
16	2.00	1.75	2.05	2.85	3.60	2.75	1.70	1.40	1.35	1.00	1.75	1.75
17	2.15	2.00	3.08	2.78	3.60	2.00	1.70	1.35	1.35	1.00	1.75	1.75
18	2.10	1.83	3.28	2.70	3.65	2.65	1.70	1.35	1.35	1.00	1.75	1.75
19	2.10	1.78	3.35	2.70	3.65	2.60	1.70	1.35	1.40	1.00	1.75	1.75
20	2.00	1.88	3.50	2.70	3.50	2.50	1.70	1.35	1.40	1.70	1.75	1.75
21	2.00	1.83	3.05	2.80	3.43	2.43	1.70	1.35	1.40	1.70	1.80	1.80
22	2.00	1.00	3.35	2.05	3.35	2.43	1.70	1.35	1.40	1.70	1.85	1.85
23	1.00	1.80	3.20	2.00	3.35	2.35	1.75	1.35	1.50	1.70	1.80	1.80
24	1.00	1.80	3.05	2.00	3.35	2.30	1.70	1.35	1.50	1.80	1.90	1.85
25	1.80	1.80	2.05	2.00	3.38	2.25	1.70	1.35	1.00	1.80	1.90	1.85
26	2.10	1.85	3.00	3.00	3.45	2.15	1.00	1.35	1.00	1.80	1.90	1.85
27	2.10	1.80	3.00	3.13	3.60	2.00	1.00	1.35	1.00	1.80	1.80	1.85
28	2.00	1.85	2.93	3.23	3.45	2.00	1.55	1.35	1.00	1.80	1.80	1.85
29	1.00	---	2.85	3.30	3.45	2.00	1.55	1.35	1.00	1.75	1.80	1.85
30	1.80	---	2.80	3.30	3.40	1.95	1.50	1.35	1.00	1.75	1.80	1.85
31	1.00	---	2.75	---	3.40	---	1.50	1.35	---	1.75	---	1.85

**ESTIMATED MONTHLY DISCHARGE**  
 Of Bear River, near Preston, Idaho, for 1900.  
 (Drainage area, 4,500 square miles.)

Month.	Discharge in Second-Feet.			Total in Acre Feet	Run-Off.	
	Maximum.	Minimum.	Mean.		Sec.-ft. per Sq. mile.	Depth in Inches.
January	1,037	705	841	51,711	0.10	0.22
February	1,212	455	729	40,487	0.10	0.17
March	2,432	737	1,484	91,248	0.33	0.38
April	2,065	1,460	1,054	98,420	0.37	0.41
May	2,537	2,117	2,208	139,454	0.50	0.58
June	2,222	802	1,544	91,874	0.34	0.38
July	802	592	600	40,582	0.15	0.17
August	522	455	482	29,037	0.11	0.13
September	580	455	480	28,010	0.11	0.12
October	705	580	617	37,938	0.14	0.16
November	770	672	692	41,177	0.16	0.17
December	737	551	651	40,213	0.15	0.17
The year	2,537	455	1,000	731,060	0.23	3.00

**DISCHARGE MEASUREMENTS**  
 Of Bear River, near Preston, Idaho, for 1901.

Date.	Hydrographer.	Gage height.	Discharge.
		Feet.	Second-feet.
January 30	G. L. Swendsen	1.00	594
February 23	do	2.50	853
March 25	do	2.35	842
April 22	do	3.30	2,128
May 13	do	3.07	2,350
June 26	do	1.00	721
July 27	do	1.40	410
August 22	do	1.50	400
September 10	do	1.40	435
November 18	do	1.05	011
December 10	do	1.75	520

**DAILY GAGE HEIGHT**  
Of Bear River, at Preston, Idaho, for 1901.

Day.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
1	1.55	1.55	2.43	2.40	3.80	3.70	1.85	1.30	1.35	1.50	1.70	1.70
2	1.55	1.55	2.55	2.40	3.88	3.72	1.77	1.30	1.35	1.50	1.70	1.70
3	1.55	1.55	2.55	2.40	3.93	3.65	1.75	1.30	1.30	1.50	1.70	1.80
4	1.55	1.55	2.55	2.40	4.13	3.53	1.70	1.30	1.30	1.50	1.70	1.90
5	1.55	1.55	2.55	2.40	4.25	3.53	1.68	1.30	1.30	1.50	1.70	1.90
6	1.55	1.55	2.55	2.40	4.15	3.45	1.65	1.30	1.30	1.50	1.70	1.90
7	1.55	1.55	2.60	2.40	4.20	3.40	1.65	1.30	1.30	1.50	1.70	1.90
8	1.55	1.55	2.60	2.40	4.20	3.35	1.63	1.35	1.30	1.50	1.70	1.90
9	1.55	1.55	2.70	2.40	4.20	3.28	1.60	1.35	1.35	1.50	1.70	1.90
10	1.55	1.55	2.75	2.40	4.15	3.15	1.60	1.35	1.35	1.50	1.70	1.90
11	1.55	1.55	2.77	2.40	4.22	3.00	1.57	1.35	1.35	1.50	1.70	1.90
12	1.55	1.55	2.87	2.43	4.25	2.90	1.55	1.35	1.40	1.50	1.70	1.90
13	1.55	1.55	2.98	2.50	4.20	2.75	1.55	1.35	1.40	1.50	1.70	1.90
14	1.55	1.55	2.95	2.77	4.12	2.60	1.55	1.35	1.40	1.50	1.70	1.90
15	1.55	1.55	2.82	2.90	4.00	2.55	1.53	1.35	1.40	1.50	1.55	1.90
16	1.55	1.55	2.73	3.00	4.05	2.48	1.50	1.35	1.40	1.55	1.60	1.90
17	1.55	1.55	2.63	3.10	4.10	2.42	1.47	1.38	1.40	1.55	1.60	1.90
18	1.55	1.55	2.50	3.15	4.10	2.40	1.45	1.40	1.40	1.55	1.60	1.73
19	1.55	1.55	2.43	3.20	4.10	3.37	1.45	1.40	1.40	1.58	1.60	1.63
20	1.55	1.55	2.40	3.28	4.10	2.35	1.43	1.40	1.40	1.60	1.60	1.60
21	1.55	2.03	2.40	3.30	4.10	2.35	1.40	1.40	1.40	1.60	1.65	1.60
22	1.55	2.60	2.40	3.35	4.05	2.35	1.40	1.40	1.50	1.60	1.65	1.60
23	1.60	2.40	2.40	3.37	4.05	2.30	1.38	1.40	1.50	1.60	1.70	1.60
24	1.69	2.03	2.40	3.43	3.98	2.28	1.35	1.40	1.50	1.60	1.70	1.60
25	1.60	2.08	2.40	3.47	3.92	2.18	1.35	1.35	1.50	1.60	1.70	1.60
26	1.60	2.22	2.40	3.65	3.90	2.15	1.35	1.35	1.50	1.60	1.70	1.60
27	1.60	2.33	2.40	3.82	3.93	2.08	1.35	1.35	1.50	1.70	1.70	1.60
28	1.60	2.40	2.40	3.85	3.95	2.00	1.35	1.35	1.50	1.70	1.70	1.60
29	1.00	-----	2.40	3.90	3.93	2.00	1.33	1.35	1.50	1.70	1.70	1.60
30	1.58	-----	2.40	3.85	3.90	1.95	1.30	1.35	1.50	1.70	1.70	1.60
31	1.55	-----	2.40	-----	3.80	-----	1.30	1.35	-----	1.70	-----	1.60

ESTIMATED MONTHLY DISCHARGE  
Of Bear River, near Preston, Idaho, for 1901.  
(Drainage area, 4,500 square miles.)

Month.	Discharge in Second-Feet.			Total In Acre Feet.	Run-Off.	
	Maximum.	Minimum.	Mean.		Sec.-ft. per Sq. mile.	Depth in Inches.
January	622	497	503	30,028	0.11	0.13
February	1,030	497	663	36,821	0.15	0.16
March	1,030	1,070	1,217	74,830	0.27	0.31
April	2,568	1,070	1,010	90,397	0.36	0.40
May	2,025	2,400	2,720	167,014	0.61	0.70
June	2,415	737	1,425	81,703	0.32	0.36
July	704	400	487	29,044	0.11	0.13
August	434	400	418	25,702	0.09	0.10
September	474	400	430	25,014	0.10	0.11
October	578	474	505	31,051	0.11	0.13
November	578	407	501	33,384	0.12	0.13
December	704	522	614	37,753	0.13	0.15
The year	2,025	400	931	975,101	0.21	2.81

DISCHARGE MEASUREMENTS  
Of Bear River, near Preston, Idaho, in 1902.

Date.	Hydrographer.	Gage height.	Discharge.
		Feet.	Second-feet.
January 13	George L. Swendsen	1.00	407
February 1	do	1.80	606
March 15	do	1.72	610
April 20	do	3.00	1,803
May 30	do	3.15	1,961
June 12	do	3.40	2,231
June 18	do	2.40	924
July 21	do	1.25	355
August 11	do	1.19	290
September 29	do	1.32	385
October 6	do	1.58	412
November 3	do	1.02	455
December 24	do	1.70	524

DAILY GAGE HEIGHT  
In feet, of Bear River, near Preston, Idaho, for 1902.

Day.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
1	1.00	1.00	1.70	1.70	2.75	3.10	2.30	1.20	1.80	1.45	1.70	1.00
2	1.00	1.00	1.70	1.70	2.75	3.10	2.25	1.15	1.80	1.48	1.65	1.00
3	1.00	1.00	1.70	1.70	2.75	3.10	1.95	1.25	1.80	1.50	1.65	1.00
4	1.00	1.00	1.70	1.75	2.70	3.10	1.88	1.15	1.80	1.55	1.65	1.00
5	*	1.00	1.70	1.85	2.05	3.10	1.85	1.20	1.80	1.55	1.65	1.00
6	*	1.00	1.70	2.15	2.58	3.10	1.85	1.25	1.80	1.60	1.65	1.00
7	*	1.00	1.70	2.70	2.50	3.10	1.85	1.30	1.80	1.60	1.65	1.00
8	*	1.00	1.70	3.20	2.60	3.10	1.85	1.35	1.70	1.60	1.65	1.00
9	*	*	1.70	3.00	2.03	3.10	1.83	1.40	1.00	1.00	1.65	1.00
10	*	*	1.70	2.00	2.05	3.10	1.80	1.45	1.50	1.60	1.65	1.00
11	*	*	1.70	2.00	2.70	3.15	1.68	1.50	1.40	1.60	1.65	1.00
12	1.00	*	1.70	3.00	2.75	3.15	1.65	1.55	1.30	1.00	1.70	1.00
13	1.00	*	1.70	3.50	2.75	3.15	1.65	1.00	1.20	1.00	1.70	1.00
14	1.00	*	1.70	3.50	2.75	3.15	1.65	1.65	1.10	1.00	1.70	1.00
15	1.00	*	1.70	2.88	2.75	3.10	1.65	1.70	1.10	1.00	1.70	1.00
16	1.00	1.05	1.70	2.80	2.80	3.60	1.68	1.80	1.10	1.00	1.70	1.00
17	1.00	1.05	1.70	2.80	2.85	3.25	1.50	1.80	1.10	1.00	1.70	1.00
18	1.00	1.70	1.70	2.88	3.05	2.05	1.48	1.00	1.15	1.00	1.65	1.00
19	1.00	1.05	1.70	2.00	2.05	2.88	1.43	1.00	1.20	1.00	1.60	1.00
20	1.00	1.05	1.70	2.85	2.00	2.78	1.40	1.00	1.27	1.00	1.60	1.00
21	1.00	1.05	1.70	2.00	3.00	2.73	1.40	1.00	1.30	1.00	1.60	1.00
22	1.00	1.05	1.70	2.80	3.00	2.08	1.40	1.00	1.30	1.00	1.60	1.00
23	1.00	1.05	1.70	2.05	3.00	2.03	1.40	1.00	1.30	1.00	1.60	1.00
24	1.00	1.05	1.70	2.00	3.20	2.58	1.37	1.00	1.30	1.00	1.60	1.00
25	1.00	1.05	1.70	3.20	3.15	2.53	1.35	1.00	1.30	1.00	1.60	1.00
26	1.00	1.05	1.70	3.10	3.10	2.43	1.35	1.00	1.30	1.00	1.60	1.00
27	1.00	1.05	1.70	3.00	3.10	2.33	1.35	1.00	1.32	1.00	1.60	1.00
28	1.00	1.05	1.70	2.95	3.10	2.13	1.35	1.00	1.35	1.00	1.60	1.00
29	1.00	-----	1.70	2.00	3.10	2.08	1.33	1.00	1.32	1.00	1.60	-----
30	1.00	-----	1.70	2.85	3.10	2.13	1.30	1.05	1.40	1.70	1.00	-----
31	1.00	-----	1.70	-----	3.10	-----	1.27	1.80	-----	1.70	-----	-----

\*Gage lost.

RATING TABLE  
For Bear River, near Preston, Idaho, for 1902.

Gage height.	Discharge.	Gage height.	Discharge.	Gage height.	Discharge.	Gage height.	Discharge.
Feet.	Sec.-feet.	Feet.	Sec.-feet.	Feet.	Sec.-feet.	Feet.	Sec.-feet.
1.1	302	1.8	570	2.5	1,130	3.2	1,028
1.2	324	1.9	632	2.6	1,230	3.3	2,060
1.3	350	2.0	700	2.7	1,334	3.4	2,196
1.4	382	2.1	776	2.8	1,442	3.5	2,336
1.5	420	2.2	856	2.9	1,556		
1.6	464	2.3	942	3.0	1,676		
1.7	514	2.4	1,034	3.1	1,800		

ESTIMATED MONTHLY DISCHARGE  
Of Bear River, near Preston, Idaho, for 1902.  
(Drainage area, 4,500 square miles.)

Month.	Discharge in Second-Feet.			Total in Acre Feet.	Run-Off.	
	Maximum.	Minimum.	Mean.		Sec.-ft. per Sq. mile.	Depth in Inches.
January	464	404	404	28,530	.10	.12
February	514	404	480	20,058	.11	.11
March	514	514	514	31,005	.11	.13
April	2,336	514	1,438	85,507	.32	.30
May	1,028	1,130	1,493	91,801	.33	.38
June	2,336	776	1,570	93,421	.35	.39
July	942	337	403	30,313	.11	.13
August	606	313	508	31,236	.11	.13
September	570	302	400	24,159	.00	.10
October	514	300	407	28,715	.10	.12
November	514	404	485	13,850	.11	.12
December	464	404	404	28,630	.10	.12
The year	2,336	302	732	520,304	.16	2.21

DISCHARGE MEASUREMENTS  
Of Bear River, near Preston, Idaho, in 1903.

Date.	Hydrographer.	Gage height.	Discharge.
		Feet.	Second-feet.
March 10	G. L. Swendsen	2.10	937
October 31	W. W. McLaughlin	1.55	433

**MEAN DAILY GAGE HEIGHT,**  
**In feet, of Bear River, near Preston, Idaho, for 1903.**

Day.	Jan.	Feb.	Mar.	Apr.	May	June	Nov.	Dec.
1	1.60	1.60	1.60	2.55	2.05	2.90	1.67	1.69
2	1.60	1.60	1.60	2.70	2.05	2.95	1.67	1.69
3	1.60	1.60	1.60	2.50	2.85	2.05	1.67	1.69
4	1.60	1.60	1.60	2.60	2.85	3.05	1.67	1.69
5	1.60	1.60	1.60	2.72	2.80	3.12	1.67	1.69
6	1.60	1.60	1.65	2.72	2.80	3.20	1.68	1.69
7	1.60	1.60	1.70	2.93	2.80	-----	1.68	1.69
8	1.60	1.60	1.70	2.97	2.80	-----	1.68	1.69
9	1.60	1.60	1.65	3.05	2.80	-----	1.68	1.69
10	1.60	1.60	1.70	3.22	2.80	-----	1.68	1.69
11	1.60	1.60	1.75	3.30	2.80	-----	1.68	1.69
12	1.60	1.60	2.30	3.30	2.80	-----	1.68	1.69
13	1.60	1.60	2.30	3.30	2.80	-----	1.69	1.69
14	1.60	1.60	2.45	3.20	2.80	-----	1.70	1.69
15	1.60	1.60	2.40	3.10	2.75	-----	1.70	1.69
16	1.60	1.60	2.38	3.00	2.70	-----	1.69	1.68
17	1.60	1.60	2.32	3.00	2.70	-----	1.68	1.55
18	1.60	1.60	3.00	2.95	2.80	-----	1.69	1.30
19	1.60	1.60	2.80	2.90	2.96	-----	1.69	1.30
20	1.60	1.60	2.70	2.90	2.92	-----	1.69	1.25
21	1.60	1.60	2.70	2.87	2.95	-----	1.69	1.30
22	1.60	1.60	1.70	2.85	2.95	-----	1.69	1.30
23	1.60	1.60	1.75	2.80	2.95	-----	1.69	1.25
24	1.60	1.60	1.80	2.80	2.95	-----	1.69	1.35
25	1.60	1.60	1.95	2.80	2.95	-----	1.69	1.45
26	1.60	1.60	2.00	2.80	2.95	-----	1.69	1.45
27	1.60	1.60	2.00	2.90	2.97	-----	1.69	-----
28	1.60	1.60	2.20	2.95	2.95	-----	1.69	-----
29	1.60	1.60	2.20	2.95	2.90	-----	1.69	-----
30	1.60	1.60	2.22	2.98	2.90	-----	1.69	-----
31	1.60	-----	2.40	-----	2.80	-----	-----	-----

**ESTIMATED MONTHLY DISCHARGE**  
**Of Bear River near Preston, Idaho, for 1903.**  
**(Drainage area, 4,600 square miles.)**

Month.	Discharge in Second-Feet.			Total in Acre Feet.	Run-Off,	
	Maximum.	Minimum.	Mean.		Sec. ft. per Sq. mile.	Depth in Inches.
January	-----	-----	400	28,285	0.10	0.12
February	-----	-----	400	25,617	0.10	0.10
March	1,075	400	700	43,010	0.15	0.17
April	2,000	1,130	1,650	92,230	0.34	0.38
May	1,025	1,330	1,500	92,230	0.31	0.30
November	-----	-----	500	20,750	0.11	0.13
December	514	330	400	21,603	0.00	0.10

Note.—Record very incomplete.

DISCHARGE MEASUREMENTS  
Of Bear River, near Preston, Idaho, in 1904.

Date.	Hydrographer.	Area of section.	Mean velocity.	Gage height.	Discharge.	
					Ft. per sec.	Second-ft.
May 7	W. Swendsen	1,182	4.03	4.65		4,757
June 9	do	1,013	4.42	4.70		4,448
July 6	W. D. Beers	571	2.60	2.58		1,482
November 5	W. Swendsen	374	1.92	1.55		718
December 18	C. Tanner	391	1.88	1.60		733

MEAN DAILY GAGE HEIGHT,  
In feet, of Bear River, near Preston, Idaho, for 1904.

Day.	Jan.*	Feb.*	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
1	1.25	1.35	1.00	2.70	3.75	4.05	2.00	1.15	1.40	1.35	1.57	1.45
2	1.25	1.35	1.85	2.70	3.75	4.05	2.70	1.15	1.40	1.35	1.55	1.45
3	1.25	1.35	2.05	2.75	3.87	5.00	2.52	1.15	1.37	1.37	1.55	1.42
4	1.25	1.35	2.20	2.80	4.20	4.95	2.47	1.10	1.35	1.40	1.55	1.45
5	1.25	1.35	2.65	2.85	4.20	4.95	2.45	1.10	1.35	1.40	1.55	1.45
6	1.25	1.35	2.65	2.95	4.25	4.90	2.45	1.05	1.35	1.40	1.55	1.45
7	1.25	1.35	2.65	2.95	4.25	4.00	2.40	1.05	1.35	1.40	1.55	1.45
8	1.25	1.35	2.85	2.95	4.27	4.72	2.35	1.00	1.30	1.40	1.55	1.45
9	1.25	1.35	2.85	2.97	4.30	4.05	2.35	1.00	1.30	1.40	1.55	1.45
10	1.25	1.35	2.87	3.20	4.30	4.57	2.32	.95	1.30	1.40	1.55	1.45
11	1.25	1.35	2.85	3.35	4.30	4.52	2.32	.95	1.30	1.40	1.55	1.45
12	1.25	1.35	2.95	3.50	4.30	4.47	2.27	.95	1.25	1.45	1.55	1.45
13	1.25	1.35	2.95	3.70	4.30	4.40	2.25	.95	1.25	1.45	1.55	1.45
14	1.25	1.35	2.95	3.90	4.35	4.20	2.25	.95	1.25	1.45	1.55	1.45
15	1.25	1.45	2.65	4.12	4.35	4.10	2.15	.95	1.25	1.45	1.55	1.45
16	1.25	1.45	2.65	4.10	4.35	3.95	2.15	.95	1.25	1.55	1.55	1.45
17	1.25	1.50	2.65	4.16	4.35	3.87	2.07	1.00	1.25	1.60	1.55	1.45
18	1.35	1.55	2.70	4.15	4.35	3.80	2.00	1.15	1.25	1.60	1.50	1.55
19	1.35	1.55	3.05	4.10	4.40	3.72	1.92	1.15	1.25	1.60	1.50	1.55
20	1.35	1.55	3.20	4.10	4.45	3.65	1.85	1.15	1.25	1.60	1.50	1.55
21	1.35	1.55	2.90	4.20	4.45	3.57	1.77	1.15	1.25	1.60	1.45	1.50
22	1.35	1.55	2.87	4.15	4.57	3.55	1.67	1.15	1.25	1.60	1.45	1.50
23	1.35	2.40	2.85	4.15	4.02	3.65	1.62	1.15	1.25	1.60	1.45	1.45
24	1.35	1.95	2.85	4.07	4.07	3.55	1.55	1.25	1.25	1.60	1.45	1.45
25	1.35	2.10	2.85	3.95	4.72	3.47	1.47	1.30	1.25	1.60	1.45	1.45
26	1.35	2.35	2.85	3.87	4.75	3.45	1.45	1.35	1.25	1.60	1.45	1.45
27	1.35	2.25	2.85	3.85	4.77	3.40	1.40	1.35	1.32	1.60	1.45	1.45
28	1.35	2.05	2.85	3.85	4.82	3.35	1.40	1.37	1.33	1.60	1.45	1.45
29	1.35	2.05	2.85	3.85	4.82	3.35	1.40	1.45	1.35	1.60	1.45	1.45
30	1.35	2.05	2.85	3.80	4.85	3.27	1.40	1.45	1.35	1.60	1.45	1.45
31	1.35	2.85	2.85	3.75	4.92	3.10	1.40	1.45	1.35	1.60	1.45	1.45

\* Gage heights estimated January 1 to February 5, as river was frozen.

**RATING TABLE**  
For Bear River, near Preston, Idaho, from January 1 to December 31, 1904.

Gage height. Feet.	Dis-charge. Sec.-feet.						
0.95	483	1.90	905	2.90	1,845	3.90	3,245
1.00	600	2.00	970	3.00	1,970	4.00	3,400
1.10	535	2.10	1,040	3.10	2,100	4.10	3,555
1.20	570	2.20	1,115	3.20	2,235	4.20	3,715
1.30	610	2.30	1,200	3.30	2,370	4.30	3,875
1.40	650	2.40	1,295	3.40	2,510	4.40	4,035
1.50	695	2.50	1,395	3.50	2,650	4.60	4,305
1.60	740	2.60	1,500	3.60	2,795	4.80	4,705
1.70	700	2.70	1,610	3.70	2,945	5.00	5,050
1.80	845	2.80	1,725	3.80	3,095		

The above table is applicable only for open-channel conditions. It is based upon 5 discharge measurements made during 1904. It is not well defined, owing to lack of sufficient measurements.

**ESTIMATED MONTHLY DISCHARGE**  
Of Bear River, near Preston, Idaho, for 1904.  
(Drainage area, 4,500 square miles.)

Month.	Discharge in Second-Foot.			Total in Acre Feet	Run-Off.	
	Maximum	Minimum	Mean		Sec.-ft. per Sq. mile.	Depth in Inches.
January	630	500	608	37,380	0.135	0.150
February	1,205	630	705	41,000	.170	.183
March	2,235	875	1,584	57,400	.352	.400
April	3,716	1,610	2,824	108,000	.628	.701
May	4,903	3,020	4,003	240,800	.903	1.01
June	5,050	2,100	3,924	215,500	.805	.898
July	4,815	650	1,911	61,010	.291	.260
August	672	483	550	33,820	.122	.141
September	650	600	600	30,210	.135	.161
October	710	630	697	42,860	.155	.179
November	727	672	700	41,050	.160	.171
December	710	650	680	41,810	.161	.174
<b>The year</b>	<b>6,050</b>	<b>483</b>	<b>1,478</b>	<b>1,072,000</b>	<b>.320</b>	<b>4.47</b>

DISCHARGE MEASUREMENTS  
Of Bear River, near Preston, Idaho, in 1905.

Date.	Hydrographer.	Width.	Area of section.	Mean velocity.	Gage height.	Discharge.
			Square feet.	Ft. per second.	Feet.	Second-feet.
January 25	W. G. Swendsen	188	348	1.78	1.60	.617
February 17*	C. Tanner	107	524	1.46	2.80	.766
March 23	W. G. Swendsen	102	470	2.26	2.15	1,059
March 23	do	192	470	2.27	2.15	1,067
May 3	do	106	513	2.64	2.45	1,354
June 7	do	187	358	1.00	1.45	.574
July 11	do	152	203	.89	.60	.182
August 23	W. D. Beers	145	216	.82	.60	.177
September 16	W. G. Swendsen	171	239	1.22	.80	.291
October 30	do	186	310	1.56	1.43	.528

\*Back water caused by a large quantity of floating ice piled up near the gaging station. This rendered the velocity zero for 60 feet in the middle of the stream. There was a small amount of ice on the edges of the stream at the gaging station, but none near the gage.

DAILY GAGE HEIGHT  
In feet, of Bear River, near Preston, Idaho, for 1905.

Day.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
1	2.0	1.5	1.5	1.88	2.15	1.7	-----	0.5	0.7	1.0	1.04	1.3
2	2.0	1.5	1.62	1.8	2.33	1.7	-----	.5	.7	1.0	1.04	1.25
3	2.0	1.0	1.65	1.8	2.42	1.02	-----	.5	.7	1.07	1.04	1.25
4	2.0	1.0	1.6	1.8	2.38	1.0	-----	.5	.7	1.18	1.04	1.25
5	2.5	-----	1.6	1.8	2.3	1.03	0.6	.02	.7	1.32	1.04	1.25
6	2.5	1.6	1.08	1.8	2.23	1.53	.02	.5	.7	1.3	1.04	1.2
7	2.45	1.0	1.08	1.8	2.1	1.43	.7	.5	.72	1.3	1.04	1.37
8	2.4	1.0	1.72	1.8	2.1	1.47	.08	.5	.7	1.3	1.04	1.3
9	2.4	1.0	1.78	1.8	2.1	1.4	.03	.5	.7	1.3	1.04	1.4
10	2.4	1.8	1.78	1.8	2.1	1.43	.0	.5	.7	1.3	1.04	1.4
11	2.4	1.0	1.85	1.8	2.1	1.53	.0	.5	.7	1.3	1.04	1.5
12	2.4	-----	1.02	1.8	2.05	1.03	.0	.5	.72	1.3	1.04	1.7
13	2.4	-----	2.0	1.8	2.0	1.07	.0	.5	.8	1.35	1.04	2.0
14	2.4	-----	2.07	1.87	1.93	1.85	.0	.5	.8	1.32	1.04	2.6
15	-----	2.8	2.15	1.0	1.05	1.03	.0	.5	.8	1.22	1.04	-----
16	3.5	2.72	2.2	1.0	2.0	1.0	.0	.5	.8	1.03	1.04	-----
17	3.5	2.7	2.15	1.07	2.03	1.72	.0	.5	.8	1.03	1.35	-----
18	3.5	2.65	2.26	2.02	2.16	1.87	.0	.5	.77	1.04	1.3	2.05
19	1.5	2.67	2.3	2.08	2.16	1.0	.0	.5	.7	1.04	1.3	-----
20	1.5	2.48	2.27	2.0	2.15	1.0	.0	.5	.8	1.04	1.35	-----
21	1.5	1.5	2.23	1.05	2.1	1.05	.3	.5	.8	1.04	1.32	-----
22	1.5	1.5	2.2	1.07	2.07	1.5	.8	.6	.8	1.04	1.3	-----
23	1.0	1.5	2.12	2.0	2.0	1.42	.8	.76	.8	1.04	1.3	2.45
24	1.0	1.5	2.1	2.0	1.05	1.32	.8	.03	.8	1.04	1.27	-----
25	-----	1.58	2.03	2.07	1.0	1.23	.75	.7	1.0	1.04	1.25	-----
26	1.85	1.6	2.07	2.1	1.0	1.2	.7	.07	.03	1.45	1.25	-----
27	1.5	1.55	2.1	2.03	1.0	1.0	.03	.03	.0	1.45	1.25	-----
28	1.5	1.52	2.0	2.03	1.0	-----	.0	.7	1.0	1.45	1.25	-----
29	1.5	-----	2.0	2.03	1.87	-----	.0	.7	1.0	1.45	1.27	-----
30	1.5	-----	2.0	2.03	1.8	-----	.55	.7	1.0	1.41	1.3	-----
31	1.5	-----	1.05	-----	1.72	-----	.62	.7	-----	1.41	-----	-----

Note.—River frozen January 1-18 and February 10-20. Ice conditions December 7-31.

**STATION RATING TABLE**  
**For Bear River, near Preston, Idaho, from January 1 to December 31, 1906.**

Gage height.	Discharge.	Gage height.	Discharge.	Gage height.	Discharge.	Gage height.	Discharge.
Feet.	Sec.-feet.	Feet.	Sec.-feet.	Feet.	Sec.-feet.	Feet.	Sec.-feet.
0.50	158	1.10	371	1.60	612	2.10	1,020
.60	186	1.20	418	1.70	708	2.20	1,110
.70	217	1.30	468	1.80	770	2.30	1,205
.80	251	1.40	522	1.90	855	2.40	1,300
.90	288	1.50	580	2.00	935	2.50	1,400
1.00	328						

Note.—The above table is applicable only for open-channel conditions. It is based on 15 discharge measurements made during 1904-5. It is well defined throughout.

**ESTIMATED MONTHLY DISCHARGE**  
**Of Bear River, near Preston, Idaho, for 1905.**  
(Drainage area, 4,500 square miles.)

Month.	Discharge in Second-Feet.			Total in Acre Feet.	Run-Off.	
	Maximum.	Minimum.	Mean.		Sec.-ft. per Sq. mile.	Depth in Inches.
January 10-31	612	580	595	15,340	0.132	0.061
Feb. 1-9; 21-28	612	580	615	20,740	.137	.087
March	1,203	580	907	55,770	.202	.233
April	1,020	770	871	51,830	.191	.216
May	1,320	722	991	60,930	.220	.254
June	855	328	599	35,010	.133	.148
July	251	161	201	12,360	.045	.032
August	231	159	170	10,820	.030	.015
September	328	217	250	14,880	.050	.002
October	531	329	420	20,380	.095	.110
November	403	310	401	23,860	.080	.000
December 1-6	403	418	433	5,272	.009	.022
The period	1,320	168	630	338,800	.12	1.39

Note.—Discharge interpolated on days when gage was not read.

**MONTHLY DISCHARGE**  
In thousands of acre feet, of Bear River, near Preston, Idaho.  
(Drainage area 4,500 Square Miles.)

Year.	Run-Off.												Sec. Ft. per Sq.Mi.	Depth In Inches.	
	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.			
1859															
1860	44.92	78.17	117.19	133.74	245.00	97.29	61.50	50.15	52.50	46.60	46.60	1270.27	0.42	5.27	
1861	42.22	48.59	96.51	162.10	123.58	79.21	51.25	47.48	60.27	56.49	64.76	887.51	0.27	3.70	
1862	49.16	80.20	168.63	168.67	264.54	144.22	63.04	47.18	47.97	40.88	54.12	1115.69	0.34	4.64	
1863	49.00	54.87	127.80	210.90	210.90	97.34	47.74	41.40	45.57	53.40	63.24	1058.40	0.33	4.10	
1864	56.42	49.00	84.01	229.50	267.66	370.66	124.00	72.85	77.70	76.88	68.10	61.38	1648.32	0.50	6.31
1865	60.76	54.63	67.23	134.96	180.75	114.96	59.46	40.46	37.37	40.95	40.46	41.51	874.80	0.27	3.63
1866	56.69	50.59	49.21	130.25	137.18	265.43	101.45	56.39	47.00	49.93	65.22	92.96	1021.09	0.31	4.25
1867	39.66	55.72	48.32	55.24	172.93	212.50	82.09	51.53	46.49	68.56	67.06	60.20	1237.43	0.38	5.22
1868	58.41	55.41	51.96	141.44	171.43	129.36	62.43	33.39	31.94	35.79	39.27	40.58	840.48	0.26	3.54
1869	40.58	55.27	40.40	126.92	186.06	257.36	—	100.00	75.45	77.95	70.65	—	—	—	—
1870	51.71	40.59	91.25	98.42	129.45	91.57	40.58	29.64	28.92	37.94	41.18	40.21	731.66	0.28	3.06
1871	20.92	26.32	74.53	96.34	167.61	81.79	29.94	25.70	25.34	31.05	33.35	37.76	675.10	0.21	2.81
1872	25.32	26.06	31.01	55.57	91.80	32.42	30.31	31.24	24.16	28.72	28.86	25.53	529.39	0.16	2.21
1873	25.29	25.55	52.04	92.23	92.23	92.23	—	—	—	29.75	24.60	—	—	—	—
1874	37.28	44.00	97.40	168.00	242.30	215.50	64.01	23.82	36.24	42.86	41.65	41.81	1072.00	0.33	4.47
1875	15.24	20.74	35.77	51.83	60.93	35.64	12.36	10.82	14.88	26.38	23.86	25.27	333.90	0.12	1.39
Mean.	44.25	42.27	54.01	126.77	191.58	182.53	73.20	43.53	43.82	48.05	44.03	48.37	873.90	0.30	3.90

## Cub River near Franklin, Idaho.

### DISCHARGE MEASUREMENTS

Of Cub River, at Franklin, Idaho, near Logan, Utah, in 1896.

Date.	Hydrographer.	Gage height.	Discharge.
		Feet.	Second-feet.
June 25		1.5	373
July 27		0.35	60
September 7		0.21	42

### LIST OF DISCHARGE MEASUREMENTS

Of Cub River, at Franklin, Idaho, near Logan Utah, in 1000.

Date.	Hydrographer.	Gage height.	Discharge.
		Feet.	Second-feet.
May 29	G. L. Swendsen		402
July 23	do	2.20	74
August 30	do	1.80	67
September 22	do	1.05	55
October 27	do	1.82	61
November 19	do	1.41	43
December 24	do	1.50	40

### DAILY GAGE HEIGHT

Of Cub River, at Franklin, Idaho, for 1000.

Day.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
1							2.2	1.8	1.0	1.7	1.2	
2							2.2	1.8	1.0	1.7	1.4	
3							2.1	1.8	1.8	1.7	1.4	
4							2.1	1.8	1.8	1.6	1.6	
5							2.1	1.8	1.8	1.6	1.6	
6							2.1	1.8	1.8	1.6	1.6	
7							2.1	1.8	1.7	1.7	1.5	
8							2.1	1.8	1.7	1.7	1.7	
9							2.1	1.8	1.8	1.8	1.8	
10							2.00	1.8	1.7	1.8	1.7	
11							2.00	1.8	1.7	1.5	1.6	
12							2.00	1.8	1.8	1.3	1.5	
13							2.00	1.8	1.8	1.4	1.4	
14							2.00	1.8	1.7	1.4	1.4	
15							1.0	1.8	1.0	1.3	1.3	
16							1.0	1.8	1.8	1.3	1.3	
17							1.0	1.0	1.8	1.3	1.2	
18							1.0	1.8	1.8	1.3	1.2	
19							1.0	1.7	1.8	1.3	1.2	
20							1.0	1.8	1.7	1.3	1.2	
21							1.0	1.8	1.6	1.3	1.2	
22							1.0	1.8	1.6	1.3	1.2	
23							1.8	1.8	1.7	1.2	1.4	
24							1.8	1.8	1.6	1.3	1.5	
25							1.8	1.8	1.6	1.4	1.5	
26							1.8	1.8	1.6	1.4	1.4	
27							1.8	1.8	1.8	1.4	1.3	
28							1.8	1.8	1.8	1.3	1.2	
29							1.8	1.8	1.7	1.2	1.2	
30							1.8	1.9	1.7	1.2	1.3	
31							1.8	1.7	1.7	1.4	1.4	

**ESTIMATED MONTHLY DISCHARGE  
Of Cub River, at Franklin, Idaho, for 1900.  
(Drainage area, 53 square miles.)**

Month.	Discharge in Second-Feet.			Total in Acre Feet.	Run-Off.	
	Maximum.	Minimum.	Mean.		Sec.-ft. per Sq. mile.	Depth in Inches.
July 23-31			77	1,375	1.45	0.48
August	77	60	66	4,058	1.25	1.44
September	64	55	60	3,570	1.13	1.26
October	64	51	57	3,505	1.08	1.25
November	60	34	44	2,618	0.83	0.93

### Blacksmith Fork, near Hyrum, Utah.

This stream rises on the western slope of the Bear River Range, and flows southwest and then northwest into Logan River. The drainage basin of the tributary is in every way similar to that of the main stream. Only the flood and winter discharge, however, reaches the Logan, the entire spring and summer flow being used for irrigation on the tillable lands below the gaging station.

The gaging station was established July 19, 1900, near the tollgate in the mouth of the canyon, near Hyrum, Utah, which is the nearest post-office. The station was discontinued December 31, 1902, and re-established May 16, 1904, about 1,000 feet downstream from the toll gate and 800 feet above the Hyrum city electric-power plant. A station is also maintained on the power-plant race.

The channel is straight for 200 feet above and 50 feet below the station. The right bank for 20 feet back is a low, wooded flat, subject to overflow during extreme high water; below this point the bank is high and barren. The left bank is wooded and high and does not overflow. The bed of the stream is composed of boulders and gravel, and is somewhat rough, but apparently permanent, though a slight change seems to have occurred during December, 1904. During flood stages the velocity is high, ranging from 4 to 6 feet per second; under normal conditions it is 2 to 3 feet per second. The discharge varies from about 80 to 1,000 second-feet. Ice does not form in sufficient quantity to interfere with the results at any stage.

Discharge measurements are made by means of a cable and ear of regular form. The cable is marked at 4-foot intervals with red paint. A guy line for use during high water is stretched across the stream about 30 feet above the cable. The initial point for soundings is the south post supporting the cable.

The gage, which is observed daily by Uriah Benson, a farmer living at the tollgate, is of the vertical type, and consists of a 2 by 2½ inch iron bar with the upstream side drawn to an edge, driven into the bed of the stream and supported by a horizontal piece buried in the bank. The gage is re-

ferred to bench marks as follows: (1) A United States Geological Survey standard meallic plug, set in a solid limestone ledge about 40 feet east of the north post supporting the cable; elevation above zero of gage, 17.875 feet. (2) Top of the eyebolt of the north anchor of the cable; elevation above zero of gage, 9,578 feet.

Information in regard to this station is contained in the following publications of the United States Geological Survey (Ann—Annual Report; WS—Water-Supply Paper);

Description: WS 51, p 412; 66, p 119; 85, p 84, 133; p 249.

Discharge: WS 51, p 412; 66, p 119; 85, p 85; 133, p 249.

Discharge monthly: Ann 22, iv, p 409; WS 75, p 192; 85, p 86; 133, p 251.

Gage heights: WS 51, p 413; 66, p 120; 85, p 85; 133 p 250.

Hydrograph: Ann, 22, iv, p 410.

Rating tables: WS 52, p 521; 66, p 176; 85, p 86; 133, p 250.

**DISCHARGE MEASUREMENTS  
Of Blacksmith Fork River, at Hyrum, Utah, in 1900.**

Date.	Hydrographer.	Feet.	Second-feet.
		Gage height.	Discharge.
June 28	G. L. Swendsen	Feet.	Second-feet.
July 10	do	8.20	147
August 20	do	8.10	122
September 26	do	8.12	120
October 10	do	8.10	120
November 10	do	8.05	120
December 27	do	8.00	115

**DAILY GAGE HEIGHT**  
Of Blacksmith Fork River, at Hyrum, Utah, for

Day.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
1-----								3.20	3.10	3.10	3.10	3.05
2-----								3.20	3.10	3.10	3.10	3.05
3-----								3.20	3.10	3.10	3.10	3.05
4-----								3.20	3.20	3.10	3.10	3.05
5-----								3.20	3.20	3.10	3.10	3.05
6-----								3.20	3.50	3.10	3.10	3.05
7-----								3.20	3.50	3.10	3.10	3.05
8-----								3.20	3.50	3.10	3.05	3.05
9-----								3.10	3.10	3.10	3.05	3.05
10-----								3.10	3.10	3.10	3.05	3.05
11-----								3.10	3.10	3.10	3.05	3.05
12-----								3.15	3.10	3.10	3.05	3.00
13-----								3.15	3.10	3.10	3.05	3.00
14-----								3.15	3.10	3.10	3.05	3.00
15-----								3.10	3.10	3.10	3.05	3.00
16-----								3.10	3.10	3.10	3.05	3.00
17-----								3.10	3.10	3.10	3.05	3.00
18-----								3.10	3.10	3.10	3.05	3.00
19-----								3.20	3.10	3.10	3.10	3.00
20-----								3.20	3.10	3.10	3.10	3.00
21-----								3.20	3.10	3.10	3.20	3.10
22-----								3.20	3.10	3.10	3.20	3.10
23-----								3.20	3.10	3.10	3.20	3.10
24-----								3.20	3.10	3.10	3.20	3.10
25-----								3.20	3.10	3.10	3.50	3.05
26-----								3.20	3.10	3.10	3.10	3.00
27-----								3.20	3.10	3.10	3.10	3.05
28-----								3.20	3.10	3.10	3.10	3.00
29-----								3.20	3.10	3.10	3.10	3.05
30-----								3.20	3.10	3.10	3.10	3.00
31-----								3.20	3.10	3.10	3.10	2.80

**ESTIMATED MONTHLY DISCHARGE**  
Of Blacksmith Fork River, near Hyrum, Utah, for 1900.  
(Drainage area, 280 square miles.)

Month.	Discharge in Second-Feet,			Total in Acre Feet,	Run-Off,	
	Maximum,	Minimum,	Mean,		Sec. ft. per Sq. mile,	D. pt in Inches,
July 10-31			147	3,701	0.51	0.25
August	147	122	130	7,003	0.45	0.52
September	273	122	130	8,271	0.40	0.55
October	276	122	120	7,032	0.45	0.52
November	122	110	120	7,141	0.42	0.47
December	110	112	117	7,104	0.41	0.47

**DISCHARGE MEASUREMENTS**  
Of Blacksmith Fork River, at Hyrum, Utah, in 1901.

Date.	Hydrographer.	Gage height.	Discharge.
		Feet.	Second-feet.
Jan 26	G. L. Swendsen & W. D. Beers	2.88	106
February 27	do	3.00	118
March 22	do	2.90	117
April 27	do	3.60	347
June 24	do	3.30	192
July 19	do	3.10	133
August 26	do	3.10	111
September 28	do	3.00	132
October 26	do	3.00	121
November 25	do	2.95	107
December 23	do	2.95	120

**DAILY GAGE HEIGHT**  
Of Blacksmith Fork River, at Hyrum, Utah, for 1901.

Day.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
1	2.80	2.80	3.20	2.00	3.40	3.00	3.20	3.20	3.10	3.00	3.00	3.00
2	2.00	2.00	3.20	2.00	3.50	3.50	3.20	3.20	3.10	3.00	3.00	3.00
3	3.65	2.00	3.20	2.00	3.40	3.50	3.20	3.20	3.10	3.00	3.00	3.00
4	3.00	2.00	3.10	2.00	3.50	3.20	3.20	3.20	3.10	3.00	3.00	3.00
5	3.00	2.00	3.10	2.00	3.50	3.20	3.20	3.20	3.10	3.00	3.00	3.00
6	3.00	2.00	3.10	2.00	3.50	3.30	3.20	3.20	3.10	3.00	3.00	3.00
7	3.00	2.80	3.20	2.00	3.50	3.40	3.20	3.20	3.10	3.00	3.00	3.00
8	3.05	2.80	3.10	2.00	3.40	3.50	3.20	3.10	3.10	3.00	3.00	3.00
9	2.00	2.00	3.10	2.00	3.30	3.40	3.10	3.10	3.00	3.00	3.00	3.00
10	2.00	2.00	3.00	3.00	3.20	3.40	3.10	3.10	3.00	3.00	3.00	3.00
11	3.00	2.80	3.00	3.00	3.20	3.30	3.10	3.10	3.00	3.00	3.00	3.00
12	3.00	2.80	2.00	3.10	3.20	3.30	3.10	3.10	3.00	3.00	3.00	3.00
13	3.00	2.00	2.00	3.20	3.10	3.40	3.10	3.10	3.00	3.00	3.00	3.00
14	3.00	2.00	2.00	3.20	3.00	3.20	3.10	3.10	3.00	3.00	3.00	3.00
15	3.00	2.00	2.00	3.20	3.00	3.20	3.10	3.10	3.00	3.00	3.00	3.00
16	3.00	2.00	2.00	3.20	3.10	3.20	3.10	3.20	3.00	3.00	3.00	3.00
17	2.00	2.80	2.00	3.20	3.00	3.20	3.10	3.20	3.00	3.00	3.00	3.00
18	2.00	2.80	2.00	3.30	3.00	3.20	3.10	3.20	3.00	3.00	3.00	3.00
19	2.00	2.00	2.00	3.30	3.10	3.20	3.10	3.20	3.00	3.00	3.00	3.00
20	2.00	2.00	2.00	3.30	3.00	3.20	3.10	3.20	3.00	3.00	3.00	3.00
21	2.00	3.00	2.00	3.10	2.00	3.20	3.10	3.20	3.00	3.00	3.00	3.00
22	2.00	2.00	2.00	3.10	2.00	3.20	3.10	3.10	3.00	3.00	3.00	3.00
23	2.00	2.00	2.00	3.20	3.00	3.20	3.10	3.10	3.00	3.00	3.00	3.00
24	2.00	3.00	2.00	3.20	2.00	3.20	3.10	3.10	3.00	3.00	3.00	3.00
25	2.00	2.00	2.00	3.10	2.00	3.20	3.10	3.10	3.00	3.00	3.00	3.00
26	2.00	3.00	2.00	3.20	2.80	3.20	3.10	3.10	3.00	3.00	3.00	3.00
27	2.00	3.10	2.00	2.00	2.00	3.20	3.10	3.10	3.00	3.00	3.00	3.00
28	2.00	3.10	2.00	2.00	3.40	3.20	3.10	3.10	3.00	3.00	3.00	2.02
29	2.00	2.00	2.00	3.00	3.50	3.20	3.10	3.10	3.00	3.00	3.00	2.02
30	2.80	2.00	2.00	3.00	3.00	3.20	3.10	3.10	3.00	3.00	3.00	2.00
31	2.00	2.00	2.00	3.00	3.00	3.00	3.10	3.10	3.00	3.00	3.00	2.00

**ESTIMATED MONTHLY DISCHARGE**  
**Of Blacksmith Fork River, near Hyrum, Utah, for 1901.**  
 (Drainage area, 286 square miles.)

Month:	Discharge in Second-Feet.			Total in Acre Feet.	Run-Off.	
	Maximum.	Minimum.	Mean.		Sec.-ft. per Sq. mile.	Depth in Inches.
January	124	108	115	7,071	0.40	0.46
February	128	108	113	6,276	0.40	0.42
March	147	112	119	7,317	0.42	0.48
April	147	112	132	7,855	0.42	0.51
May	514	112	187	11,498	0.65	0.75
June	347	147	187	11,127	0.65	0.73
July	147	128	133	8,178	0.47	0.54
August	147	128	134	8,239	0.47	0.54
September	128	120	122	7,261	0.43	0.48
October	203	120	181	8,056	0.46	0.53
November	120	120	120	7,141	0.42	0.47
December	120	112	119	7,317	0.42	0.48
The year	514	108	134	97,330	0.47	0.50

**DISCHARGE MEASUREMENTS**  
**Of Blacksmith Fork River, near Hyrum, Utah, in 1902.**

Date.	Hydrographer.	Gage height.	Discharge.	
			Feet.	Second-feet.
January 27	George L. Swendsen	2.80		112
February 24	do	2.00		114
March 17	do	2.02		113
April 20	do	3.05		120
May 10	do	3.28		170
June 23	do	3.05		130
July 7	do	2.00		130
August 4	do	2.00		115
September 10	do	2.78		103
October 13	do	2.85		110
November 24	do	2.80		108
December 21	do	2.78		102

**DAILY GAGE HEIGHT**  
In feet, of Blacksmith Fork, near Hyrum, Utah, for 1902.

Day.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
1	2.80	2.90	3.05	3.00	3.30	2.80	2.90	2.80	2.83	2.90	2.90	2.90
2	2.80	2.90	3.05	3.00	3.30	2.80	2.90	2.80	2.85	2.90	2.90	2.90
3	2.92	2.90	3.05	3.00	3.30	2.80	2.90	2.80	2.85	2.85	2.90	2.90
4	2.92	2.90	3.05	3.00	3.30	2.80	2.90	2.80	2.90	2.85	2.90	2.90
5	2.92	2.90	2.90	3.05	3.00	3.30	2.80	2.85	2.80	2.90	2.85	2.90
6	2.92	2.90	2.90	3.05	3.05	3.30	2.80	2.85	2.80	2.90	2.85	2.90
7	2.80	2.80	2.90	3.05	3.05	3.30	2.80	2.80	2.80	2.90	2.85	2.90
8	2.80	2.80	2.90	3.05	3.05	3.30	2.80	2.80	2.80	2.90	2.90	2.90
9	2.80	2.80	2.90	3.05	3.05	3.30	2.80	2.80	2.80	2.95	2.90	2.90
10	2.80	2.80	2.90	3.05	3.05	3.30	2.80	2.80	2.80	2.95	2.90	2.90
11	2.80	2.80	2.90	3.05	3.05	3.30	2.80	2.80	2.80	2.95	2.90	2.90
12	2.80	2.80	2.90	3.05	3.05	2.90	2.80	2.80	2.80	2.95	2.90	2.90
13	2.80	2.90	2.90	3.05	3.05	2.90	2.80	2.80	2.80	2.95	2.90	2.90
14	2.80	2.90	2.90	3.05	3.00	2.90	2.80	2.80	2.80	2.95	2.90	2.90
15	2.80	2.90	2.90	3.05	3.00	3.20	2.80	2.80	2.80	2.90	2.95	2.90
16	2.80	2.90	2.90	3.05	3.00	3.20	2.80	2.80	2.80	2.95	2.95	2.90
17	2.80	2.90	2.90	2.90	2.90	3.10	2.80	2.80	2.85	2.90	2.95	2.90
18	2.80	2.90	2.80	2.90	2.90	3.10	2.80	2.80	2.85	2.90	2.95	2.90
19	2.80	2.90	2.90	2.90	2.90	3.10	2.80	2.80	2.85	2.90	2.90	2.90
20	2.80	2.90	2.90	2.90	2.90	3.00	2.80	2.80	2.85	2.90	2.90	2.90
21	2.80	2.90	2.90	2.90	2.90	3.00	2.80	2.80	2.85	2.90	2.90	2.90
22	2.80	2.90	2.90	2.90	2.90	3.00	2.80	2.80	2.85	2.91	2.90	2.90
23	2.80	2.90	2.80	2.90	2.90	3.00	2.80	2.80	2.85	2.90	2.90	2.90
24	2.80	2.90	2.90	2.90	3.00	2.90	2.80	2.80	2.85	2.90	2.90	2.90
25	2.80	2.90	2.90	3.00	3.00	2.90	2.80	2.80	2.85	2.95	2.85	2.90
26	2.80	2.90	2.90	3.00	3.00	2.90	2.80	2.80	2.85	2.95	2.85	2.90
27	2.80	2.90	2.90	3.00	3.00	2.80	2.90	2.80	2.85	2.95	2.85	2.90
28	2.80	2.90	2.90	3.00	3.00	2.80	2.90	2.80	2.85	2.95	2.85	2.90
29	2.80	2.90	3.00	3.00	3.00	2.80	2.90	2.80	2.85	2.90	2.85	2.90
30	2.80	2.90	3.00	3.00	3.00	2.80	2.90	2.80	2.85	2.90	2.90	2.90
31	2.80	2.90	3.00	3.00	3.00	2.90	2.90	2.80	2.85	2.90	2.90	2.90

RATING TABLE  
For Blacksmith Fork, near Hyrum, Utah, for 1902.

Gage height.	Discharge.	Gage height.	Discharge.	Gage height.	Discharge.	Gage height.	Discharge.
Feet.	Sec.-feet.	Feet.	Sec.-feet.	Feet.	Sec.-feet.	Feet.	Sec.-feet.
2.00	100	2.05	110	3.30	102	3.65	874
2.03	102	3.00	120	3.35	210	3.70	401
2.70	104	3.05	124	3.40	241	3.75	420
2.73	106	3.10	128	3.45	207	3.80	457
2.80	108	3.15	135	3.50	203	3.85	485
2.83	110	3.20	147	3.55	320	3.90	514
2.90	112	3.25	160	3.60	317		

**ESTIMATED MONTHLY DISCHARGE  
Of Blacksmith Fork, near Hyrum, Utah, for 1902.  
(Drainage area, 286 square miles.)**

Month.	Discharge in Second-Feet.			Total in Acre Feet.	Run-Off.	
	Maximum.	Minimum.	Mean.		Sec.ft. per Sq. mile.	Depth in Inches.
January -----	112	108	109	6,702	.38	.44
February -----	112	108	111	6,165	.39	.42
March -----	112	108	112	6,887	.39	.45
April -----	124	112	120	7,140	.42	.47
May -----	124	112	119	7,317	.42	.48
June -----	192	108	146	8,688	.51	.57
July -----	112	108	109	6,702	.38	.41
August -----	112	108	109	6,702	.38	.41
September -----	110	108	109	6,480	.38	.42
October -----	116	110	113	6,948	.40	.46
November -----	116	110	112	6,661	.39	.44
December -----	112	112	112	6,887	.39	.45
The year .....	192	108	115	83,288	.40	5.48

The observations at this station during 1901 have been made under the direction of G. L. Swendsen, district engineer.

**DISCHARGE MEASUREMENTS  
Of Blacksmith Fork, near Hyrum, Utah, in 1902.**

Date.	Hydrographer.	Area of section.	Mean velocity.	Gage height.	Discharge.
		Square ft.	Ft. per sec.	Feet.	Second-ft.
May 16.....	W. Swendsen .....	110	5.05	5.20	578
June 4.....	do .....	73	4.10	4.40	305
July 4.....	W. D. Beers .....	57	3.31	3.00	101
August 15.....	C. Tanner .....	47	2.80	3.78	130
November 2.....	W. Swendsen .....	47	2.50	3.05	122
December 17.....	C. Tanner .....	38	2.31	3.50	88

MEAN DAILY GAGE HEIGHT,  
In feet, of Blacksmith Fork, near Hyrum, Utah, for 1904.

Day.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.
1		4.35	4.00	3.80	3.80	3.70	3.65	3.60
2		4.35	3.90	3.80	3.70	3.70	3.65	3.60
3		4.35	3.90	3.80	3.70	3.70	3.65	3.60
4		4.40	3.90	3.80	3.70	3.70	3.65	3.60
5		4.40	3.90	3.80	3.70	3.70	3.65	3.60
6		4.40	3.90	3.80	3.70	3.70	3.60	3.60
7		4.40	3.90	3.80	3.70	3.70	3.60	3.50
8		4.40	3.90	3.80	3.70	3.70	3.60	3.50
9		4.40	3.90	3.80	3.70	3.70	3.60	3.50
10		4.30	3.90	3.80	3.70	3.70	3.60	3.50
11		4.20	3.90	3.80	3.70	3.70	3.60	3.50
12		4.20	3.90	3.80	3.70	3.80	3.60	3.50
13		4.20	3.90	3.80	3.70	3.80	3.60	3.50
14		4.20	3.90	3.80	3.70	3.80	3.60	3.50
15		4.10	3.90	3.80	3.70	3.80	3.60	3.50
16	5.50	4.10	3.90	3.80	3.70	3.80	3.60	3.50
17	5.50	4.00	3.80	3.80	3.70	3.80	3.60	3.40
18	5.50	4.00	3.80	3.80	3.70	3.70	3.60	3.60
19	5.50	4.10	3.80	3.80	3.70	3.70	3.60	3.60
20	5.50	4.10	3.80	3.80	3.70	3.70	3.60	3.60
21	5.50	4.10	3.80	3.80	3.70	3.70	3.60	3.60
22	5.90	4.10	3.80	3.80	3.70	3.70	3.60	3.60
23	5.00	4.10	3.80	4.00	3.70	3.70	3.60	3.60
24	5.00	4.10	3.80	4.00	3.70	3.70	3.60	3.60
25	4.30	4.00	3.80	4.00	3.70	3.70	3.60	3.50
26	4.30	4.00	3.80	3.90	3.70	3.70	3.60	3.50
27	4.30	4.00	3.80	3.90	3.70	3.70	3.60	3.40
28	4.30	4.00	3.80	3.80	3.70	3.70	3.60	3.40
29	4.30	4.00	3.80	3.80	3.70	3.70	3.60	3.40
30	4.30	4.00	3.80	3.80	3.70	3.70	3.60	3.50
31	4.30	4.00	3.80	3.80	3.70	3.70	3.60	3.50

RATING TABLE  
For Blacksmith Fork, near Hyrum, Utah, from May 16 to December 31, 1904.

Gage height. Feet.	Dis-charge. Sec.-feet.						
3.40	80	4.10	215	4.80	438	5.50	693
3.50	88	4.20	214	4.90	474	5.60	731
3.60	105	4.30	273	5.00	510	5.70	772
3.70	122	4.40	305	5.10	510	5.80	810
3.80	140	4.50	337	5.20	581	5.90	848
3.90	160	4.60	370	5.30	618	6.00	887
4.00	180	4.70	403	5.40	650		

The above table is applicable only for open-channel conditions. It is based upon 6 discharge measurements made during 1904. It is well defined between gage heights 3.50 feet and 5.20 feet. The table has been extended beyond these limits. Above gage height 5.30 feet the rating curve is a tangent, the difference being 38.1 per tenth.

**ESTIMATED MONTHLY DISCHARGE  
Of Blacksmith Fork, near Hyrum, Utah, for 1904.  
(Drainage area, 286 square miles.)**

Month.	Discharge in Second-Feet.			Total in Acre Feet.	Run-Off.	
	Maximum	Minimum	Mean.		Sec.-ft. per Sq. mile.	Depth in Inches.
May 16-31	848	273	497	15,770	1.74	1.07
June	305	180	238	14,160	0.83	0.03
July	186	140	151	9,285	.53	.01
August	186	140	146	8,977	.50	.58
September	140	122	123	7,310	.43	.48
October	140	122	125	7,080	.44	.51
November	113	105	106	3,307	.37	.41
December	105	80	94	5,780	.33	.38
The period	848	80	185	75,290	.01	4.97

To get total discharge, add the discharge of Power Race to the above.

**DISCHARGE MEASUREMENTS  
Of Blacksmith Fork, near Hyrum, Utah, in 1905.**

Date.	Hydrographer.	Width,	Area of section,	Mean velocity,	Gage height,	Dis- charge,	Second-
							foot.
January 23	W. G. Swendsen	38	35	2.20	3.50	78	
February 22	do	38	34	2.32	3.50	80	
April 10	do	39	44	2.72	3.70	110	
May 4	do	41	58	3.18	3.98	180	
July 9	do	39	41	2.20	3.00	95	
August 22	W. D. Beers	37	39	1.91	3.00	77	
October 28	W. G. Swendsen	30	23	1.23	3.30	28	
November 27	do	30	23	1.33	3.31	31	

**DAILY GAGE HEIGHT**  
In feet, of Blacksmith Fork, near Hyrum, Utah, for 1905.

Day.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
1	3.5	3.5	3.5	3.6	4.0	4.1	3.6	3.6	4.8	3.6	3.3	3.3
2	3.5	3.5	3.5	3.6	4.0	4.1	3.6	3.6	4.8	3.6	3.3	3.3
3	3.5	3.5	3.5	3.6	4.0	4.1	3.6	3.6	4.8	3.6	3.3	3.3
4	3.5	3.5	3.5	3.6	4.0	4.1	3.6	3.6	4.8	3.6	3.3	3.3
5	3.5	3.5	3.5	3.6	4.0	4.1	3.6	3.6	4.8	3.6	3.3	3.3
6	3.4	3.5	3.5	3.6	3.9	3.9	3.6	3.6	4.8	3.6	3.3	3.3
7	3.4	3.5	3.5	3.6	3.9	3.9	3.6	3.6	4.8	3.6	3.3	3.3
8	3.5	3.5	3.5	3.7	3.9	3.9	3.6	3.6	4.8	3.6	3.3	3.3
9	3.5	3.4	3.5	3.7	3.9	3.9	3.6	3.6	4.8	3.6	3.3	3.3
10	3.5	3.4	3.5	3.6	3.9	3.8	3.6	3.6	4.8	3.6	3.3	3.3
11	3.5	3.4	3.5	3.6	3.9	3.8	3.6	3.6	4.8	3.6	3.3	3.2
12	3.5	3.4	3.5	3.6	3.9	3.8	3.6	3.6	4.8	3.6	3.3	3.2
13	3.5	3.4	3.5	3.7	3.9	3.8	3.6	3.6	4.8	3.6	3.3	3.2
14	3.5	3.5	3.5	3.7	3.9	3.8	3.6	3.6	4.8	3.6	3.3	3.2
15	3.5	3.5	3.5	3.7	3.9	3.8	3.6	3.6	4.8	3.6	3.3	3.2
16	3.5	3.5	3.5	3.7	3.9	3.8	3.6	3.6	4.8	3.6	3.3	3.3
17	3.5	3.5	3.5	3.7	3.9	3.8	3.6	3.6	4.8	3.6	3.3	3.3
18	3.5	3.5	3.5	3.7	4.0	3.8	3.6	3.6	4.8	3.6	3.3	3.3
19	3.5	3.5	3.5	3.8	4.0	3.8	3.6	3.6	4.8	3.6	3.3	3.2
20	3.5	3.5	3.5	3.8	4.0	3.8	3.6	3.6	4.8	3.6	3.3	3.2
21	3.5	3.5	3.5	3.8	4.0	3.8	3.6	3.6	4.8	3.6	3.3	3.2
22	3.5	3.5	3.5	3.8	4.0	3.8	3.6	3.6	4.8	3.6	3.3	3.3
23	3.5	3.4	3.6	3.9	4.1	3.8	3.6	3.6	4.8	3.6	3.3	3.3
24	3.5	3.4	3.6	3.9	4.1	3.8	3.6	3.6	4.8	3.6	3.3	3.3
25	3.5	3.4	3.6	4.0	4.1	3.7	3.6	3.6	4.8	3.6	3.3	3.3
26	3.5	3.5	3.6	4.0	4.1	3.7	3.6	3.6	4.8	3.6	3.3	3.3
27	3.5	3.5	3.6	4.0	4.1	3.7	3.6	3.6	4.8	3.6	3.3	3.3
28	3.5	3.5	3.6	4.0	4.1	3.7	3.6	3.6	4.8	3.6	3.3	3.3
29	3.5	-----	3.6	4.0	4.1	3.7	3.6	3.6	4.8	3.6	3.3	3.3
30	3.5	-----	3.6	4.0	4.1	3.7	3.6	3.6	4.8	3.6	3.3	3.3
31	3.5	-----	3.6	-----	4.1	-----	3.6	4.8	-----	3.3	-----	3.3

Note.—Stream does not freeze at this point during the winter months in sufficient quantity to materially affect the rating.

**STATION RATING TABLE**  
For Blacksmith Fork, near Hyrum, Utah, from January 1 to July 31, 1905.

Gage height,	Discharge,						
Feet,	Sec. feet,						
3.40	01	3.60	08	3.80	140	4.00	190
3.50	80	3.70	118	3.90	161	4.10	210

Note.—The above table is applicable only for open-channel conditions. It is based on five discharge measurements made during January to July, 1905. It is well defined throughout.

## STATION RATING TABLE

For Blacksmith Fork, near Hyrum, Utah, from August 1 to December 31, 1905.

Gage height.	Discharge.						
Feet.	Sec.-feet.	Feet.	Sec.-feet.	Feet.	Sec.-feet.	Feet.	Sec.-feet.
3.20	18	3.70	94	4.10	189	4.50	304
3.30	29	3.80	115	4.20	216	4.60	336
3.40	42	3.90	138	4.30	244	4.70	369
3.50	57	4.00	163	4.40	273	4.80	402
3.60	75						

Note.—The above table is applicable only for open-channel conditions. It is based on three discharge measurements made during August to December, 1905, and the form of the 1904 curve. It is well defined between gage heights 3.2 and 4 feet.

ESTIMATED MONTHLY DISCHARGE  
Of Blacksmith Fork, near Hyrum, Utah, for 1905.  
(Drainage area, 286 square miles.)

Month.	Discharge in Second-Feet.			Total In Acre Feet.	Run-Off,	
	Maximum.	Minimum.	Mean.		Sec.-ft. per Sq. mile.	Depth in Inches.
January -----	80	61	70.0	4,858	.276	.318
February -----	80	61	75.4	4,188	.200	.271
March -----	98	80	85.2	5,239	.300	.310
April -----	100	68	102.	7,855	.401	.514
May -----	210	104	187.	11,500	.654	.754
June -----	210	118	151.	8,085	.428	.478
July -----	98	68	98.0	0,020	.312	.394
August -----	402	75	85.5	5,237	.300	.310
September -----	402	75	228.	13,570	.800	.922
October -----	75	29	61.1	3,757	.211	.247
November -----	29	29	20.0	1,720	.101	.113
December -----	29	18	20.2	1,011	.099	.114
The year -----	102	18	103	74,570	.353	4.82

Note.—Above estimates do not represent total flow of river. See Blacksmith Fork power plant race.

## BLACKSMITH FORK POWER PLANT RACE, NEAR HYRUM, UTAH.

This station was established May 16, 1904, for the purpose of ascertaining the amount of water diverted around the regular gaging station at the tollgate and thus determining the total flow of the stream at that point. It is located about 600 feet down the canyon road from the tollgate at the mouth of the canyon, about 200 feet below the head of the canal or race, and about 500 feet south of the river station.

The channel is straight for 100 feet above and 200 feet below the station. Both banks are sufficiently high to prevent overflow. The bed of the stream is of gravel and is apparently permanent, except for probable slight changes near the edges. The depth varies from 2 to 3 feet and the velocity from 2 to 3 feet per second. Practically no ice forms in the channel at any time.

Discharge measurements are made from a foot plank placed across the stream and fastened at the ends to pieces of timber buried in the bank. The plank is marked at 1-foot intervals. The initial point for soundings is the north end of the plank, marked zero.

The gage, daily readings of which are made by Uriah Benson, is a 2 by  $2\frac{1}{2}$  inch iron bar driven vertically into the bed of the stream, supported at the top by the plank from which the measurements are made, and graduated by means of punch holes. The bench mark is a point on a projecting rock on the southeast corner of a rock house about 400 feet northwest from the station. It is marked with red paint. Elevation above zero of gage, 8,845 feet.

A description of this station, gage height, and discharge data and rating table are contained in Water-Supply Paper No. 133 of the United States Geological Survey, pp. 251-253.

**DISCHARGE MEASUREMENTS**  
Of Blacksmith Fork power plant race, near Hyrum, Utah, in 1904.

Date.	Hydrographer.	Area of section.	Mean velocity.	Gage height.	Discharge.
		Square ft.	Ft. per sec.	Feet.	Second-ft.
May 16	W. Swendsen	31	2.71	4.80	84
June 4	do	30	2.16	4.60	63
July 4	W. D. Beers	25	2.20	4.45	55
August 15	C. Tanner	24	2.52	4.47	59
November 2	W. Swendsen	21	2.44	4.35	50
December 17	C. Tanner	20	1.90	4.30	40

**MEAN DAILY GAGE HEIGHT,**

In feet, of Blacksmith Fork power plant race near Hyrum, Utah, for 1904.

Day.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.
1	4.70	4.40	4.50	4.50	4.30	4.30	4.30	4.30
2	4.70	4.40	4.50	4.40	4.30	4.30	4.30	4.30
3	4.70	4.50	4.50	4.40	4.30	4.30	4.30	4.30
4	4.60	4.50	4.50	4.40	4.30	4.30	4.30	4.30
5	4.60	4.50	4.40	4.40	4.30	4.30	4.30	4.30
6	4.60	4.50	4.40	4.40	4.30	4.30	4.30	4.30
7	4.60	4.50	4.50	4.40	4.30	4.30	4.30	4.40
8	4.60	4.50	4.60	4.40	4.30	4.30	4.30	4.40
9	4.60	4.50	4.50	4.40	4.30	4.30	4.30	4.40
10	4.60	4.50	4.50	4.40	4.30	4.30	4.30	4.40
11	4.60	4.50	4.60	4.40	4.30	4.30	4.30	4.40
12	4.50	4.50	4.50	4.40	4.40	4.40	4.30	4.40
13	4.50	4.50	4.50	4.40	4.40	4.40	4.30	4.40
14	4.50	4.50	4.50	4.40	4.40	4.40	4.30	4.40
15	4.60	4.50	4.50	4.40	4.40	4.40	4.30	4.40
16	4.80	4.60	4.50	4.60	4.40	4.40	4.30	4.40
17	4.80	4.50	4.50	4.60	4.40	4.40	4.30	4.30
18	4.80	4.50	4.50	4.60	4.40	4.30	4.30	4.30
19	4.80	4.50	4.50	4.60	4.40	4.30	4.30	4.30
20	4.80	4.50	4.50	4.60	4.40	4.30	4.30	4.30
21	4.80	4.50	4.50	4.60	4.40	4.30	4.30	4.30
22	4.70	4.50	4.50	4.50	4.40	4.30	4.30	4.40
23	4.70	4.50	4.50	4.50	4.40	4.30	4.30	4.40
24	4.90	4.50	4.50	4.60	4.40	4.30	4.30	4.40
25	4.90	4.40	4.50	4.50	4.40	4.30	4.30	4.40
26	4.70	4.40	4.50	4.50	4.40	4.30	4.30	4.30
27	4.70	4.40	4.50	4.50	4.40	4.30	4.30	4.20
28	4.60	4.40	4.50	4.50	4.40	4.30	4.30	4.30
29	4.70	4.40	4.50	4.50	4.40	4.30	4.30	4.40
30	4.70	4.40	4.50	4.50	4.40	4.30	4.30	4.40
31	4.70	-----	4.50	4.50	-----	4.30	-----	4.60

RATING TABLE  
For Blacksmith Fork power plant race, near Hyrum, Utah, from May 16 to December 31, 1904.

Gage height.	Discharge.						
Feet.	Sec.-feet.	Feet.	Sec.-feet.	Feet.	Sec.-feet.	Feet.	Sec.-feet.
4.30	42	4.50	50	4.70	76	4.90	93
4.40	50	4.60	68	4.80	85		

The above table is applicable only for open-channel conditions. It is based upon 6 discharge measurements made during 1904. It is fairly well defined between gage heights 4.30 and 4.80 feet.

**ESTIMATED MONTHLY DISCHARGE**  
Of Blacksmith Fork power plant race, near Hyrum, Utah, for 1904.

Month.	Discharge in second-feet.			Total in acre-feet.
	Maximum.	Minimum.	Mean.	
May 16-31 -----	93	68	81.0	2,371
June -----	70	50	61.3	3,018
July -----	59	50	58.4	3,591
August -----	59	50	58.4	3,591
September -----	50	50	50.3	2,003
October -----	50	42	43.5	2,075
November -----	42	42	42.0	2,400
December -----	50	33	46.4	2,853
<b>The period</b> -----				<b>24,420</b>

**DISCHARGE MEASUREMENTS**  
Of Blacksmith Fork power plant race, near Hyrum, Utah, in 1905.

Date.	Hydrographer.	Width.	Area of section.	Mean velocity.	Gage height.	Discharge.
		Feet.	Square feet.	Ft. per second.	Feet.	Second-feet.
January 23 -----	W. G. Swendsen -----	12.0	23	2.55	4.50	58
October 28 -----	do -----	13.5	28	3.02	4.00	83

## DAILY GAGE HEIGHT

In feet, of Blacksmith Fork power plant race, near Hyrum, Utah, for 1905.

Day.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
1	4.5	4.5	4.5	4.5	4.5	4.6	4.6	4.6	-----	4.4	4.0	4.0
2	4.5	4.5	4.5	4.5	4.5	4.6	4.6	4.6	-----	4.4	4.0	4.0
3	4.5	4.5	4.5	4.5	4.5	4.6	4.6	4.6	-----	4.4	4.0	4.0
4	4.45	4.5	4.5	4.5	4.5	4.6	4.6	4.6	-----	4.4	4.0	4.0
5	4.45	4.5	4.5	4.5	4.5	4.6	4.6	4.6	-----	4.4	4.0	4.0
6	4.45	4.5	4.5	4.6	4.5	4.6	4.6	4.6	-----	4.4	4.0	4.0
7	4.45	4.5	4.5	4.6	4.4	4.6	4.6	4.6	-----	4.4	4.0	4.0
8	4.45	4.5	4.5	4.6	4.4	4.6	4.6	4.6	-----	4.4	4.0	4.0
9	4.45	4.4	4.5	4.6	4.4	4.6	4.6	4.6	-----	4.4	4.0	4.0
10	4.5	4.4	4.5	4.6	4.4	4.5	4.6	4.6	-----	4.4	4.0	4.0
11	4.5	4.4	4.5	4.6	4.4	4.5	4.6	4.6	-----	4.4	4.0	4.5
12	4.5	4.4	4.5	4.6	4.4	4.5	4.6	4.6	-----	4.4	4.0	4.5
13	4.5	4.4	4.5	4.6	4.4	4.5	4.6	4.6	-----	4.4	4.0	4.5
14	4.5	4.5	4.5	4.6	4.4	4.5	4.6	4.6	-----	4.4	4.0	4.5
15	4.5	4.5	4.5	4.7	4.4	4.5	4.6	4.6	4.5	4.4	4.0	4.6
16	4.5	4.5	4.5	4.7	4.4	4.4	4.6	4.6	4.5	4.4	4.0	4.7
17	4.5	4.45	4.5	4.7	4.4	4.4	4.6	4.6	4.5	4.4	4.0	4.6
18	4.5	4.45	4.5	4.7	4.5	4.4	4.6	4.6	4.4	4.4	4.0	4.6
19	4.5	4.45	4.5	4.8	4.5	4.4	4.6	4.5	4.4	4.4	4.0	4.5
20	4.5	4.45	4.5	4.8	4.5	4.4	4.6	4.5	4.4	4.4	4.0	4.5
21	4.5	4.45	4.5	4.8	4.5	4.4	4.6	4.5	4.4	4.4	4.0	4.5
22	4.5	4.45	4.5	4.8	4.5	4.4	4.6	4.5	4.4	4.4	4.0	4.6
23	4.5	4.45	4.6	4.5	4.5	4.4	4.6	4.6	4.4	4.4	4.0	4.6
24	4.5	4.45	4.6	4.5	4.6	4.4	4.6	4.4	4.4	4.4	4.0	4.7
25	4.5	4.45	4.6	4.5	4.6	4.0	4.6	4.4	4.4	4.0	4.0	4.7
26	4.5	4.45	4.6	4.5	4.6	4.0	4.6	4.3	4.4	4.0	4.0	4.7
27	4.5	4.45	4.6	4.5	4.6	4.0	4.6	4.3	4.4	4.0	4.0	4.8
28	4.5	4.5	4.5	4.5	4.6	4.0	4.6	4.3	4.4	4.0	4.0	4.8
29	4.5	----	4.5	4.5	4.0	4.0	4.6	4.3	4.4	4.0	4.0	4.8
30	4.5	----	4.5	4.5	4.0	4.0	4.6	4.3	4.4	4.0	4.0	4.8
31	4.5	----	4.5	----	4.0	----	4.6	----	4.0	----	4.0	4.8

Note.—Flow not materially affected by ice conditions.

## STATION RATING TABLE

For Blacksmith Fork power plant race, near Hyrum, Utah, from January 1 to December 31, 1905.

Gage height,	Dis-charge,						
Feet.	Sec.-feet.	Feet.	Sec.-feet.	Feet.	Sec.-feet.	Feet.	Sec.-feet.
4.30	41	4.60	58	4.70	73	4.00	88
4.40	51	4.60	60	4.80	80		

Note.—The above table is applicable only for open-channel conditions. It is based on eight discharge measurements made during 1904-5. It is fairly well defined.

**ESTIMATED MONTHLY DISCHARGE**  
**Of Blacksmith Fork power plant race, near Hyrum, Utah, for 1905.**

Month.	Discharge in second-feet.			Total in acre-feet.
	Maximum.	Minimum.	Mean.	
January	58	54	57.2	3,517
February	58	51	55.2	3,066
March	66	58	59.8	3,677
April	80	58	65.3	3,886
May	66	51	57.6	3,512
June	66	51	59.9	3,564
July	66	66	66.0	4,058
August 1-30	66	44	59.8	3,658
September 15-30	58	51	52.3	1,650
October	88	51	62.5	3,843
November	88	88	88.0	5,230
December	88	58	74.5	4,581
The year	88	51	63.2	44,100

**PRECIPITATION**  
**At Hyrum, Utah, in drainage basin of Blacksmith Fork.**

Year.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.	Ann.
1904						0.32		2.87	0.40		0.00	1.20	
1905	1.20	1.20		2.22	2.23	1.31	1.03	0.41	1.60	1.10	1.00	1.25	14.40

**MONTHLY DISCHARGE.**  
In thousands of acre feet, of Blacksmith Fork, near Hyrum, Utah.  
Drainage area, 286 Square Miles.

Year.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Total	Run-Off Sec. Ft. per Sq. Mi.	Run-Off Depth in Inches.
1900								7.90	8.27	7.93	7.14	7.19			
1901	7.07	6.28	7.22	7.86	11.50	11.13	S.18	S.24	7.26	8.06	7.14	7.32	37.34	0.47	6.39
1902		6.70	6.17	6.80	7.14	7.32	S.53	6.70	6.49	6.95	6.66	6.89	83.20	0.40	5.48
1903							—Missing—								
1904															
1905															
Mean....	7.28	6.57	7.71	8.02	15.47	12.55	9.46	8.86	9.51	8.18	7.34	7.25	99.80	0.48	6.57

In the above table the discharge of Blacksmith Fork Power Plant race has been added to that of the river during 1904 and 1905 to obtain the total flow.

## **Logan River, near Logan, Utah.**

Logan River rises on the west slope of the Bear River Range, flows southwest, then northwest, and unites with Bear River, near Benson, Utah. The entire basin is rough and rugged, the elevations ranging from 4,500 to 9,000 feet, and the stream being confined largely to a steep and rough channel in a comparatively narrow canyon. The principal formation is a compact limestone, with little or no soil except near the summit of the range, where a thin layer supports quite extensive groves of fir and aspen. The lower reaches of the stream are practically barren of timber, except for a few scattered pine and mahogany trees and a rather thick growth of underbrush. A large amount of timber has been cut out, and the area has been overgrazed by sheep and cattle. There are no flood basins or marshes in the region. Probably three-fourths of the precipitation in the basin is snow, the melting of which forms the chief source of supply for the spring and early summer flow; the late summer and winter flow is derived chiefly from springs, which are well distributed over the basin. In its upper course the stream has numerous small tributaries, all short and swift. Temple Fork and South Fork, which enter the river about 10 and 15 miles, respectively, above the gaging station, are perennial streams, and furnish from one-third to one-fourth of the total flow. Blacksmith Fork comes in below the gaging station. There is no storage on the stream at present. The entire flow, after being utilized to furnish power at two electric plants near the mouth of the canyon, is used for irrigation.

A gaging station was established June 1, 1896, about 2 miles east of the city of Logan, near the mouth of the canyon. It was discontinued July 18, 1903, and re-established April 13, 1904, at a point along the canyon road about 50 feet below the highway bridge, at the mouth of the canyon, 800 feet below the Hercules power house, and about 1,000 feet above the old gaging station.

The channel is straight for about 150 feet above and 75 feet below the gaging section. The banks are of rock and soil,

permanent, and are sufficiently high to prevent overflow. The bed of the stream was originally of boulders and gravel, well cemented together, very rough, and of such shape that the stream was not well distributed. When the station was re-established, the channel was improved by removing large boulders and sufficient of the finer material to distribute the flow and render the bed comparatively smooth. During the spring flood of 1904 a deposit of boulders and gravel was made at the section, reducing it to about the original conditions, but leaving a loose and probably shifting bed. There is but one channel at all stages. Discharge ranges from about 150 to 1,000 second-feet, with a velocity of from 3 to 7 feet per second. The depth is 1.5 to 3.5 feet. There are no dams or riffles and the grade of the stream is about uniform. Winter flow is affected but little by ice, as the stream never freezes over.

Discharge measurements are made by means of a cable and car of the regular form. The cable is marked at 4-foot intervals with red paint. A guy line is stretched about 25 feet above the cable, for use during high water. The initial point for soundings is a 4 by 4 inch post, set in the west bank and projecting about 4 feet above the ground.

Observations are taken by the Telluride Power Company, under the direction of E. P. Bacon, manager. The gage is of the vertical type, consisting of a 2 by 2½ inch steel rod, with the upstream side drawn to an edge. It is driven into the bed of the stream and is supported at the top by a horizontal 4 by 4 inch fir buried in the bank and fastened to a vertical post near the water edge. The bench mark is a United States Geological Survey standard metallic plug, cemented in a limestone ledge 250 feet N. about 30° W. of the cable, on a prominent point near the north side of a road leading to the power house; elevation, 24.85 feet above zero of gage; elevation above mean sea level; as determined from Oregon Short Line Railroad elevations, 4,502 feet.

Information in regard to this station is contained in the following publications of the United States Geological Survey (Ann—Annual Report; WS—Water-Supply Paper):

Discharge, monthly: Ann 18, iv, p 318; 19, iv, p 434; 20 iv, p 462; 21, iv, p 397; WS 16, p 158; 28, p 146; 38, p 334; 51, p 411; 66, p 118; 85, pp 86-87; 100, p 137; 133, p 246.

Discharge: Ann 18, iv, p 317; WS 16, p 158; 28, p 153;

38, p 335; 51, p 411; 66, p 118; 85, p 87; 100, p 137; 133, p 246.

Discharge, monthly: An n18, iv, p 318; 19, iv, p 434; 20 iv, p 462; 21, iv, p 397; 22, iv, p 408; WS 75, p 192; 133, p 248.

Discharge, yearly: Ann 20, iv, p 60.

Gage heights: WS 11, p 77; 16, p 158; 28, p 150; 38, p 335; 51, p 412; 66, p 119; 100, p 138; 133, pp 247, 248.

Hydrographs: Ann 19, iv, p 434; 20, iv, p 463; 22, iv, p 409.

Rating tables: Ann 18, iv, p 318; 19, iv, p 433; WS 28, p 154; 39, p 453; 52, p 521; 66, p 176; 133, p 247.

DISCHARGE MEASUREMENTS  
Of Logan River, near Logan, Utah, for 1896.

Date.	Hydrographer.	Gage height.	Discharge.	
			Feet.	Second-feet.
June 11	S. Fortier	4.05	1,010	
June 15	do	4.04	1,584	
June 20	do	3.90	901	
July 6	T. H. Humphreys	3.75	728	
July 10	S. Fortier	3.47	488	
August 3	do	3.14	334	
August 17	do	2.00*	204	
August 18	J. L. Rhead	2.00	354	
September 11	do	2.45*	412	
September 20	do	3.00*	527	
October 6	T. H. Humphreys	2.70	243	

\*At county bridge, 6 miles west of Logan.

**DAILY GAGE HEIGHT**  
Of Logan River, near Logan, for 1890.

Day.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
1						4.80	3.85	3.10	2.80	2.70	2.65	2.60
2						3.80	3.10	2.80	2.70	2.60	2.55	
3						3.75	3.10	2.80	2.70	2.60	2.55	
4						4.70	3.70	3.10	2.80	2.70	2.60	2.55
5						3.75	3.05	2.80	2.70	2.60	2.55	
6						4.90	3.75	3.05	2.75	2.70	2.60	2.55
7						3.70	3.05	2.75	2.70	2.55	2.50	
8						3.05	3.00	2.80	2.65	2.60	2.15	
9						4.70	3.00	2.95	2.75	2.05	2.70	
10						4.70	3.55	2.95	2.75	2.05	2.65	2.55
11						3.65	2.95	2.75	2.05	2.60		
12						4.05	3.50	2.95	2.75	2.05	2.60	
13						4.60	3.55	2.95	2.75	2.65	2.60	
14						4.60	3.50	2.90	2.75	2.05	2.60	
15						4.60	3.45	3.00	2.75	2.65	2.55	
16						4.05	3.45	3.00	2.75	2.05	2.55	
17						4.05	3.40	3.00	2.75	2.05	2.55	
18						4.05	3.40	2.95	2.70	2.05	2.55	
19						4.55	3.35	2.90	2.75	2.05	2.55	2.45
20						4.55	3.30	2.90	2.75	2.05	2.55	
21						4.45	3.30	2.85	2.75	2.05	2.55	
22						4.10	3.25	2.85	2.75	2.05	2.55	
23						4.30	3.25	2.85	2.75	2.05	2.55	
24						4.25	3.25	2.85	2.75	2.05	2.55	
25						4.15	3.20	2.85	2.75	2.05	2.55	2.45
26						4.10	3.20	2.85	2.75	2.05	2.55	
27						4.05	3.15	2.85	2.75	2.05	2.55	
28						4.00	3.15	2.85	2.70	2.05	2.40	
29						3.90	3.15	2.85	2.70	2.10	2.55	
30						3.85	3.15	2.85	2.70	2.10	2.55	
31						3.10	2.85		2.00			

**ESTIMATED MONTHLY DISCHARGE**  
Of Logan River, near Logan, Utah, for 1890.  
(Drainage area, 218 square miles.)

Month,	Discharge in Second-Foots,			Total in Acre Feet,	Run-Off,	
	Maximum.	Minimum.	Mean,		Sec.-ft. per Sq. mile.	Depth in Inches.
June -----	1,860	815	1,400	87,411	0.80	7.78
July -----	815	303	518	33,003	2.62	2.01
August -----	363	206	321	19,737	1.40	1.72
September -----	270	242	258	15,352	1.10	1.39
October -----	212	218	210	14,757	1.10	1.27
November -----	212	218	210	13,091	1.00	1.11
December -----	218	103	201	12,513	0.04	1.08

DISCHARGE MEASUREMENTS  
Of Logan River, at Logan, Utah, in 1897.

Date.	Hydrographer.	Gage height.	Discharge.
		Feet.	Second-feet.
May 27	S. Fortier	4.13	1,210
May 29	do	4.60	1,336
June 17	do	4.15	1,007
July 20	do	3.20	478
July 26	do	3.10	413
August 21	do	2.85	305
August 30	do	2.80	298
September 13	do	2.80	284
November 12	do	2.66	219
November 16	do	2.66	219

DAILY GAGE HEIGHT  
OF Logan River, at Logan, for 1897.

Day.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
1	2.45				3.80	4.75	3.50	3.05	2.80	2.80	2.70	2.65
2					2.45	3.00	4.05	3.60	3.05	2.80	2.80	2.70
3					4.10	4.45	3.55	3.00	2.90	2.80	2.70	2.65
4					4.20	4.30	3.50	3.00	2.85	2.80	2.70	2.60
5					2.45	2.40			4.10	4.25	3.45	3.00
6									4.20	4.15	3.45	3.00
7									4.15	4.15	3.45	3.00
8									3.95	4.20	3.40	3.05
9									2.45	2.50	3.80	4.20
10									3.80	4.15	3.35	3.00
11									3.75	4.10	3.30	2.75
12									3.80	4.10	3.30	2.75
13									3.00	4.05	3.25	2.75
14									4.10	4.05	3.25	2.05
15									2.75	4.15	4.05	3.25
16									2.80	4.20	4.10	3.25
17									2.95	4.00	4.00	3.25
18									3.05	4.20	3.85	3.20
19									2.45	2.40	3.10	4.40
20									3.35	4.00	3.75	3.20
21									3.15	4.00	3.75	3.20
22									3.05	4.75	3.75	3.15
23									3.95	4.80	3.75	3.15
24									3.00	4.80	3.75	3.10
25									3.00	4.80	3.70	3.10
26									2.45	2.40	2.60	2.60
27									3.35	4.70	3.05	3.10
28									3.50	4.55	3.60	3.10
29									3.70	4.50	3.55	3.05
30									3.75	4.55	3.55	3.05
31									4.70	—	3.05	2.80

ESTIMATED MONTHLY DISCHARGE  
Of Logan River, near Logan, Utah, for 1897.

Month.	Discharge in Second-Feet.			Acre Feet	Run-Off.	
	Maximum.	Minimum.	Mean.		Sec.-ft. per Sq. mile.	Depth in Inches.
January			150*	9,223	0.69	0.79
February			150*	8,331	0.69	0.79
March			150*	9,223	0.69	0.79
April	760	150	317	18,803	1.45	1.67
May	1,823	760	1,264	77,721	5.80	6.69
June	1,684	637	990	58,000	4.54	5.07
July	605	392	493	30,814	2.26	2.61
August	392	265	330	20,291	1.51	1.74
September	325	265	270	16,066	1.24	1.38
October	285	245	264	16,233	1.21	1.39
November	245	225	232	13,805	1.06	1.18
December	225	150	188	11,560	0.86	0.99
The year			400	290,530	1.83	25.02

\*Estimated.

DAILY GAGE HEIGHT  
Of Logan River, at Logan, for 1898.

Day.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
1.	2.50	2.55	2.50	2.50	3.40	3.75	3.35	2.85	2.75	2.00	2.00	2.55
2.	2.50	2.55	2.50	2.50	3.30	3.80	3.30	2.85	2.75	2.00	2.00	2.55
3.	2.50	2.55	2.50	2.50	3.30	3.80	3.30	2.85	2.75	2.05	2.00	2.50
4.	2.55	2.55	2.50	2.50	3.25	3.80	3.25	2.85	2.70	2.05	2.00	2.50
5.	2.55	2.55	2.50	2.45	3.25	3.70	3.20	2.80	2.70	2.05	2.00	2.45
6.	2.55	2.55	2.50	2.50	3.25	3.70	3.29	2.80	2.70	2.05	2.00	2.45
7.	2.55	2.55	2.50	2.55	3.35	3.05	3.15	2.80	2.70	2.05	2.00	2.40
8.	2.55	2.55	2.50	2.55	3.35	3.70	3.15	2.80	2.70	2.05	2.00	2.30
9.	2.55	2.55	2.50	2.55	3.35	3.75	3.10	2.80	2.05	2.05	2.00	2.70
10.	2.55	2.50	2.50	2.65	3.40	3.75	3.10	2.75	2.05	2.05	2.00	2.40
11.	2.50	2.50	2.40	2.75	3.70	3.75	3.00	2.75	2.05	2.05	2.00	2.30
12.	2.50	2.50	2.45	2.85	3.05	3.75	3.15	2.75	2.05	2.05	2.05	2.35
13.	2.50	2.50	2.45	2.95	3.05	3.75	3.15	2.75	2.05	2.00	2.00	2.40
14.	2.50	2.50	2.50	3.00	3.05	3.75	3.15	2.75	2.05	2.00	2.05	2.40
15.	2.50	2.55	2.50	3.15	3.05	3.75	3.05	2.00	2.05	2.00	2.05	2.45
16.	2.55	2.55	2.45	3.25	3.05	3.75	3.00	2.80	2.05	2.00	2.05	2.45
17.	2.55	2.55	2.45	3.25	3.05	3.75	3.00	2.75	2.05	2.00	2.05	2.45
18.	2.55	2.50	2.45	3.20	3.05	3.75	3.00	2.75	2.05	2.00	2.05	2.45
19.	2.55	2.45	2.45	3.15	3.65	3.75	3.00	2.75	2.05	2.00	2.05	2.45
20.	2.55	2.50	3.15	3.65	3.75	3.00	2.75	2.05	2.05	2.00	2.05	2.45
21.	2.55	2.55	3.15	3.45	3.55	3.65	2.05	2.00	2.00	2.00	2.05	2.45
22.	2.55	2.50	3.30	3.60	3.60	3.00	2.05	2.00	2.00	2.00	2.05	2.40
23.	2.55	2.45	2.45	3.25	3.60	3.70	2.05	2.00	2.00	2.00	2.05	2.35
24.	2.55	2.45	2.45	3.25	3.70	3.65	2.05	2.00	2.00	2.00	2.05	2.35
25.	2.55	2.50	2.45	3.30	3.70	3.60	2.00	2.85	2.00	2.00	2.05	2.40
26.	2.50	2.55	2.45	3.50	3.65	3.55	2.00	2.80	2.00	2.00	2.05	2.50
27.	2.00	2.50	2.45	3.65	3.65	3.50	2.85	2.80	2.00	2.00	2.00	2.55
28.	2.00	2.50	2.45	3.50	3.65	3.45	2.85	2.75	2.00	2.00	2.00	2.55
29.	2.00	2.50	2.45	3.45	3.75	3.40	2.80	2.75	2.00	2.00	2.00	2.55
30.	2.00	2.45	3.45	3.75	3.40	2.80	2.75	2.00	2.00	2.00	2.00	2.55
31.	2.00	2.45	3.60	3.75	3.55	2.85	2.75	2.00	2.00	2.00	2.00	2.55

ESTIMATED MONTHLY DISCHARGE  
Of Logan River, near Logan, Utah, for 1898.  
(Drainage area, 218 square miles.)

Month.	Discharge in Second-Feet.			Total in Acre Feet.	Run-Off.	
	Maximum.	Minimum.	Mean.		Sec.-ft. per Sq. mile.	Depth in Inches.
January -----	107	142	152	9,346	0.70	0.81
February -----	155	134	147	8,164	0.67	0.70
March -----	107	128	140	8,608	0.64	0.74
April -----	582	134	323	10,220	1.48	1.05
May -----	778	419	587	36,093	2.69	3.10
June -----	740	500	663	39,451	3.04	3.39
July -----	472	229	322	10,709	1.48	1.71
August -----	264	213	231	14,204	1.06	1.22
September -----	213	107	183	10,889	0.84	0.93
October -----	182	107	172	10,570	0.70	0.91
November -----	107	142	160	9,521	0.73	0.81
December -----	182	108	136	8,302	0.62	0.71
The year --	778	108	208	104,233	1.23	10.08

DISCHARGE MEASUREMENTS  
Of Logan River, at Logan, Utah, in 1898.

Date.	Hydrographer.	Gage height, Feet.	Discharge,
			Second-feet.
April 22 -----	J.S. Baker & G. L. Swendson	3.10	420
May 9 -----	do	3.57	628
May 15 -----	do	3.07	760
May 29 -----	do	3.80	931
June 17 -----	do	4.05	1,030
July 3 -----	do	4.00	1,520
August 5 -----	do	3.62	625
November 1 -----	do	2.82	323
December 2 -----	do	2.76	301

**DAILY GAGE HEIGHT**  
Of Logan River, at Logan, Utah, for 1899.

Day.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
1-----	2.55	2.50	2.50	2.55	3.05	3.70	4.75	3.55	3.10	2.00	2.80	2.75
2-----	2.50	2.50	2.50	2.55	3.00	3.75	4.70	3.50	3.10	2.00	2.80	2.75
3-----	2.50	2.50	2.45	2.55	3.00	3.80	4.65	3.50	3.10	2.00	2.80	2.75
4-----	2.45	2.35	2.45	2.55	3.00	4.20	4.00	3.50	3.05	2.00	2.80	2.75
5-----	2.45	2.30	2.45	2.60	3.10	4.45	4.50	3.50	3.05	2.00	2.80	2.75
6-----	2.45	2.80	2.40	2.60	3.15	4.25	4.45	3.50	3.05	2.00	2.80	2.75
7-----	2.50	2.50	2.45	2.65	3.20	4.15	4.40	3.50	3.05	2.00	2.80	2.75
8-----	2.55	2.50	2.50	2.65	3.30	4.15	4.35	3.45	3.05	2.00	2.80	2.75
9-----	2.50	2.50	2.50	2.75	3.05	4.20	4.30	3.40	3.05	2.00	2.80	2.75
10-----	2.50	2.50	2.50	2.85	3.50	4.30	4.25	3.40	3.05	2.00	2.80	2.75
11-----	2.50	2.50	2.45	3.00	3.60	4.50	4.20	3.35	3.00	2.00	2.80	2.75
12-----	2.50	2.50	2.45	3.00	3.80	4.75	4.20	3.35	3.00	2.00	2.80	2.70
13-----	2.50	2.50	2.45	3.00	3.75	4.65	4.15	3.35	3.00	2.00	2.80	2.70
14-----	2.50	2.50	2.45	3.05	3.70	4.50	4.15	3.30	3.00	2.00	2.80	2.70
15-----	2.50	2.50	2.45	3.05	3.65	4.45	4.10	3.30	3.00	2.00	2.80	2.70
16-----	2.50	2.50	2.45	3.05	3.55	4.50	4.05	3.30	3.00	2.00	2.80	2.70
17-----	2.50	2.45	2.45	3.05	3.50	4.05	4.00	3.25	3.00	2.00	2.80	2.70
18-----	2.50	2.45	2.45	3.00	3.60	4.70	4.00	3.25	3.00	2.00	2.75	2.70
19-----	2.50	2.45	2.45	2.95	3.05	4.00	4.00	3.20	2.95	2.00	2.75	2.05
20-----	2.50	2.45	2.50	2.95	3.70	5.00	3.95	3.20	2.95	2.00	2.75	2.05
21-----	2.50	2.45	2.50	2.95	3.60	4.85	3.90	3.20	2.95	2.00	2.75	2.00
22-----	2.50	2.40	2.50	3.10	3.50	4.80	3.85	3.20	2.95	2.85	2.75	2.00
23-----	2.50	2.35	2.50	3.30	3.55	4.75	3.80	3.15	2.95	2.85	2.75	2.75
24-----	2.50	2.45	2.50	3.40	3.35	4.70	3.80	3.15	2.95	2.85	2.75	2.70
25-----	2.50	2.45	2.65	3.30	3.70	4.70	3.75	3.15	2.95	2.85	2.75	2.70
26-----	2.50	2.45	2.65	3.25	3.75	4.70	3.75	3.15	2.95	2.85	2.75	2.70
27-----	2.50	2.45	2.60	3.20	3.85	4.65	3.70	3.10	2.90	2.85	2.75	2.70
28-----	2.50	2.45	2.60	3.10	3.75	4.65	3.70	3.10	2.90	2.85	2.75	2.05
29-----	2.50	2.60	3.05	3.75	4.70	3.95	3.10	2.90	2.85	2.75	2.70	
30-----	2.50	2.60	3.10	3.80	4.75	3.90	3.10	2.90	2.80	2.75	2.70	
31-----	2.50	2.55	3.70	.....	.....	3.55	3.10	.....	2.80	.....	2.70	

**ESTIMATED MONTHLY DISCHARGE**  
Of Logan River, at Logan, Utah, for 1899.  
(Drainage area, 218 square miles.)

Month.	Discharge in Second-Feet.			Total in Acre-Feet.	Run-Off.	
	Maximum.	Minimum.	Mean.		Sec.-ft. per Sq. mile.	Depth in Inches.
January	243	210	220	11,084	1.05	1.21
February	310	200	220	12,551	1.04	1.08
March	298	210	231	14,204	1.06	1.22
April	570	243	369	21,057	1.69	1.80
May	890	380	660	40,682	3.03	3.49
June	1,030	705	1,170	87,471	0.71	7.61
July	1,703	603	1,100	67,030	5.05	5.82
August	603	420	518	31,851	2.38	2.76
September	420	315	370	22,552	1.71	1.94
October	345	310	338	20,783	1.55	1.70
November	310	205	304	19,090	1.30	1.55
December	295	255	283	17,041	1.30	1.50
The year	1,030	200	509	309,158	2.34	31.75

DISCHARGE MEASUREMENTS  
Of Logan River, at Logan, Utah, in 1900.

Date.	Hydrographer.	Gage height. Feet.	Discharge. Second-feet.
January 8	G. L. Swendsen	2.71	272
February 16	do	2.55	243
March 19	do	2.65	222
March 28	do	2.80	252
April 16	do	2.81	241
April 25	do	3.10	371
May 10	do	3.88	782
May 31	do	4.00	849
June 30	do	3.32	449
July 28	do	2.83	279
August 25	do	2.70	168
September 21	do	2.65	180
October 20	do	2.65	173
November 15	do	2.65	162
December 27	do	2.65	162

DAILY GAGE HEIGHT  
Of Logan River, at Logan, Utah, for 1900.

Day.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
1	2.65	2.00	2.00	2.80	3.30	4.05	3.30	2.85	2.70	2.65	2.65	2.60
2	2.65	2.65	2.00	2.85	3.30	4.00	3.25	2.80	2.70	2.65	2.65	2.60
3	2.70	2.65	2.00	2.90	3.35	4.10	3.25	2.80	2.70	2.65	2.65	2.60
4	2.70	2.65	2.00	2.85	3.40	4.05	3.20	2.80	2.70	2.65	2.65	2.60
5	2.70	2.00	2.00	2.80	3.55	4.00	3.20	2.80	2.70	2.65	2.65	2.60
6	2.70	2.00	2.00	2.85	3.65	4.00	3.15	2.80	2.70	2.65	2.65	2.60
7	2.70	2.60	2.00	2.90	3.70	4.00	3.15	2.80	2.70	2.65	2.65	2.60
8	2.70	2.60	2.00	2.90	3.75	3.95	3.15	2.80	2.70	2.65	2.65	2.60
9	2.65	2.60	2.00	2.90	3.80	4.10	3.15	2.80	2.70	2.65	2.65	2.60
10	2.65	2.00	2.00	2.85	3.90	3.95	3.15	2.75	2.70	2.65	2.65	2.60
11	2.65	2.00	2.00	2.80	4.00	3.90	3.10	2.75	2.70	2.65	2.65	2.60
12	2.70	2.55	2.05	2.80	4.00	3.85	3.10	2.75	2.70	2.65	2.65	2.60
13	2.70	2.00	2.05	2.80	3.80	3.80	3.10	2.75	2.65	2.65	2.65	2.60
14	2.70	2.00	2.05	2.80	3.70	3.80	3.10	2.75	2.65	2.65	2.60	2.60
15	2.70	2.00	2.70	2.80	3.65	3.75	3.05	2.75	2.65	2.65	2.60	2.60
16	2.70	2.55	2.00	2.80	3.65	3.70	3.00	2.75	2.65	2.65	2.60	2.60
17	2.70	*	2.70	2.80	3.65	3.65	3.00	2.75	2.65	2.65	2.60	2.60
18	2.70	*	2.70	2.85	3.65	3.60	2.95	2.75	2.65	2.65	2.60	2.60
19	2.70	2.00	2.70	2.90	3.70	3.60	2.95	2.75	2.65	2.65	2.60	2.60
20	2.65	2.00	2.70	2.95	3.70	3.65	2.90	2.75	2.65	2.65	2.60	2.60
21	2.65	2.00	2.70	3.00	3.75	3.65	2.90	2.75	2.65	2.65	2.70	2.60
22	2.65	2.00	2.75	3.05	3.80	3.65	2.90	2.75	2.65	2.65	2.65	2.60
23	2.65	2.55	2.75	3.05	3.85	3.60	2.90	2.75	2.65	2.65	2.65	2.60
24	2.65	2.55	2.80	3.00	3.90	3.50	2.90	2.75	2.65	2.65	2.60	2.60
25	2.60	2.00	2.80	3.05	3.95	3.45	2.90	2.75	2.65	2.65	2.60	2.60
26	2.60	2.00	2.80	3.10	4.05	3.45	2.90	2.75	2.65	2.65	2.60	2.60
27	2.60	2.00	2.80	3.15	4.15	3.40	2.85	2.75	2.65	2.65	2.60	2.60
28	2.65	2.55	2.80	3.20	4.20	3.40	2.85	2.75	2.65	2.65	2.60	2.40
29	2.65	-----	2.75	3.25	4.15	3.35	2.85	2.75	2.65	2.65	2.60	2.65
30	2.65	-----	2.75	3.30	4.10	3.30	2.85	2.70	2.65	2.65	2.60	2.60
31	2.65	-----	2.75	-----	4.05	-----	2.85	2.70	-----	2.65	-----	2.60

\* Gage out.

**ESTIMATED MONTHLY DISCHARGE  
Of Logan River, near Logan, Utah, for 1900.  
(Drainage area, 218 square miles.)**

Month.	Discharge in Second-Feet.			Total in Acre-Feet.	Run-Off.	
	Maximum.	Minimum.	Mean.		Sec.-ft. per Sq. mile.	Depth in Inches.
January	205	170	193	11,867	0.89	1.03
February	187	152	169	9,386	0.78	0.81
March	245	170	191	11,744	0.88	1.01
April	456	245	300	17,851	1.38	1.51
May	1,015	456	721	44,932	3.31	3.81
June	935	456	691	41,117	3.17	3.53
July	450	265	339	20,844	1.56	1.80
August	205	205	230	14,142	1.06	1.22
September	205	187	194	11,544	0.89	0.99
October	205	187	188	11,500	0.86	0.90
November	205	170	180	10,711	0.83	0.93
December	170	110	166	10,207	0.70	0.88
The year	1,015	135	207	215,305	1.36	18.51

**DISCHARGE MEASUREMENTS  
Of Logan River, at Logan, Utah, in 1901.**

Date.	Hydrographer.	Gage height, Feet.	Discharge, Second-feet.
January 23	G. L. Swendsen	2.53	101
February 20	do	2.00	100
March 10	do	2.42	140
April 20	do	3.30	400
May 25	do	4.03	801
June 23	do	3.50	332
July 30	do	2.80	171
August 21	do	2.82	181
September 7	do	2.81	202
October 25	do	2.70	108
November 25	do	2.03	170

**DAILY GAGE HEIGHT**  
Of Logan River, near Logan, Utah, for 1901.

Day.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
1-----	2.60	2.50	2.60	2.50	3.40	4.00	-----	2.95	2.85	2.80	2.70	-----
2-----	2.60	2.50	2.60	2.55	3.40	4.00	-----	2.95	2.80	2.75	2.70	-----
3-----	2.60	2.50	2.60	2.55	3.35	4.00	-----	2.95	2.80	2.75	2.70	-----
4-----	2.60	2.50	2.60	2.55	3.35	3.90	-----	2.95	2.80	2.75	2.70	-----
5-----	2.60	2.50	2.60	2.55	3.40	3.90	-----	2.95	2.80	2.75	2.70	-----
6-----	2.60	2.50	2.60	2.55	3.40	3.90	-----	2.95	2.80	2.75	2.70	-----
7-----	2.60	2.50	2.60	2.55	3.40	3.85	-----	2.95	2.80	2.75	2.70	-----
8-----	2.50	2.50	2.60	2.55	3.45	3.85	-----	2.90	2.80	2.75	2.70	-----
9-----	2.70	2.50	2.60	2.55	3.60	3.85	3.15	2.90	2.80	2.75	2.70	-----
10-----	2.55	2.50	2.60	2.60	3.55	3.80	3.15	2.90	2.80	2.75	-----	-----
11-----	2.60	2.50	2.55	2.60	3.90	3.80	3.10	2.90	2.80	2.75	-----	-----
12-----	2.60	2.50	2.55	2.60	4.00	3.75	3.10	2.90	2.80	2.75	-----	-----
13-----	2.55	2.50	2.55	2.70	4.10	3.75	3.10	2.90	2.80	2.75	-----	-----
14-----	2.55	2.50	2.50	2.70	4.30	3.75	3.05	2.90	2.80	2.75	-----	-----
15-----	2.55	2.50	2.50	2.70	4.40	3.70	3.05	2.90	2.80	2.75	-----	-----
16-----	2.50	2.55	2.50	2.80	4.45	3.70	3.05	2.90	2.80	2.75	-----	-----
17-----	2.50	2.55	2.50	2.80	4.50	3.70	3.05	2.90	2.80	2.75	-----	-----
18-----	2.50	2.55	2.50	2.85	4.00	3.65	3.05	2.90	2.80	2.75	-----	-----
19-----	2.50	2.55	2.60	2.85	4.70	3.65	3.00	2.90	2.80	2.75	-----	-----
20-----	2.55	2.55	2.50	2.90	4.70	3.60	3.00	2.85	2.80	2.75	-----	-----
21-----	2.55	2.55	2.50	3.00	4.60	3.60	3.00	2.85	2.80	2.75	-----	-----
22-----	2.55	2.55	2.50	3.05	4.40	3.60	3.00	2.85	2.80	2.70	-----	-----
23-----	2.55	2.55	2.50	3.10	4.20	3.65	3.00	2.85	2.80	2.70	-----	-----
24-----	2.55	2.55	2.50	3.20	4.05	3.55	3.00	2.85	2.80	2.70	-----	-----
25-----	2.55	2.55	2.50	3.30	4.10	3.55	3.00	2.85	2.80	2.70	-----	-----
26-----	2.55	2.60	2.50	3.20	4.20	3.50	2.95	2.85	2.80	2.70	-----	-----
27-----	2.55	2.60	2.50	3.30	4.30	3.50	2.95	2.85	2.80	2.70	-----	-----
28-----	2.60	2.60	2.50	3.10	4.20	*	2.95	2.85	2.80	2.70	-----	-----
29-----	2.50	-----	2.50	3.20	4.20	-----	2.95	2.85	2.80	2.70	-----	-----
30-----	2.40	-----	2.50	3.40	4.20	-----	2.95	2.85	2.80	2.70	-----	-----
31-----	2.45	-----	2.60	-----	4.10	-----	2.95	2.85	-----	2.70	-----	-----

\*Gage out.

**ESTIMATED MONTHLY DISCHARGE**  
Of Logan River, near Logan, Utah, for 1901.  
(Drainage area, 218 square miles.)

Month.	Discharge in Second-Feet,			Total in Acre-Feet,	Run-Off,	
	Maximum,	Minimum,	Mean,		Sec.-ft. per Sq. mile,	Depth in Inches.
January -----	107	143	150	0,777	0.73	0.81
February -----	107	160	153	8,008	0.71	0.74
March -----	107	150	150	6,602	0.72	0.83
April -----	450	150	230	14,013	1.08	1.20
May -----	1,440	422	901	65,400	4.13	4.70
June -----	850	511	607	39,080	3.00	3.53
July 31 -----	-----	-----	250	13,184	1.33	1.13
August -----	258	227	240	14,767	1.10	1.27
September -----	227	213	213	12,074	0.98	1.09
October -----	213	188	197	12,113	0.90	1.04

**DISCHARGE MEASUREMENTS**  
Of Logan River, near Logan, Utah, in 1902.

Date.	Hydrographer.	Gage height.	Discharge.
		Feet.	Second-feet.
January 27	G. L. Swendsen	1.45	103
February 22	do	1.00	124
March 3	do	1.00	107
April 17	do	1.70	153
April 26	do	1.80	163
May 17	do	3.50	588
June 13	do	4.37	1,050
June 27	do	3.00	508
July 5	do	2.00	284
August 12	do	2.82	108
September 16	do	2.80	101
October 13	do	2.72	178
November 24	do	2.05	171
December 23	do	2.07	105

**DISCHARGE MEASUREMENTS**  
Of Logan River, near Logan, Utah, in 1903.

Date.	Hydrographer.	Gage height.	Discharge.
		Feet.	Second-feet.
January 17	G. L. Swendsen	2.03	104
March 10	do	2.01	150
April 8	do	2.03	105

**MEAN DAILY GAGE HEIGHT**  
In feet, of Logan River, near Logan, Utah, for 1903.

Day.	Jan.	Feb.	Mar.	Apr.	May	June	July
1	2.68	2.54	2.54	2.75	3.38	3.75	3.67
2	2.75	2.66	2.54	2.75	3.00	3.87	3.62
3	2.66	2.57	2.62	2.69	3.62	3.87	3.53
4	2.66	2.66	2.62	2.71	3.58	-----	3.52
5	2.66	2.52	2.62	2.62	3.58	-----	3.50
6	2.60	2.54	2.62	2.69	3.54	4.34	3.50
7	2.62	2.52	2.66	2.69	3.60	-----	3.50
8	2.60	2.64	2.54	2.62	3.58	-----	3.41
9	2.60	2.63	2.66	-----	3.60	-----	3.44
10	2.60	2.63	2.52	2.62	-----	-----	3.42
11	2.62	2.63	2.62	2.94	3.34	4.42	3.42
12	3.58	2.66	2.62	2.75	3.44	4.50	3.34
13	3.58	2.62	2.66	2.75	3.52	4.42	3.34
14	3.54	2.52	2.64	2.75	3.62	4.34	3.34
15	3.60	2.51	2.64	2.74	3.75	4.35	3.29
16	2.58	2.62	2.64	2.86	3.67	-----	3.20
17	2.60	2.62	2.64	2.87	-----	4.35	3.30
18	2.63	2.62	2.64	2.84	3.50	4.00	3.30
19	2.64	2.62	2.62	2.79	3.50	3.70	-----
20	2.64	2.66	2.62	2.84	3.44	3.70	-----
21	2.64	2.66	2.62	2.87	3.44	3.90	-----
22	2.63	2.66	-----	-----	3.50	3.87	-----
23	2.64	2.66	2.62	2.91	3.50	3.85	-----
24	2.50	2.66	2.62	3.20	3.37	3.70	-----
25	2.60	2.64	2.64	3.21	3.30	3.75	-----
26	2.64	2.62	2.64	3.28	3.37	3.88	-----
27	2.50	2.54	2.64	3.26	-----	3.82	-----
28	2.50	2.66	2.62	3.38	3.44	3.75	-----
29	2.61	-----	-----	3.35	3.44	3.75	-----
30	2.54	-----	2.61	3.35	3.51	3.67	-----
31	2.61	-----	2.72	-----	3.53	-----	-----

The observations at this station during 1901 have been made under the direction of G. L. Swendsen, district engineer.

**DISCHARGE MEASUREMENTS**  
Of Logan River, near Logan, Utah, in 1904.

Date.	Hydrographer.	Area of section.	Mean velocity.	Gage height.	Discharge.
		Square ft.	Ft. per sec.	Feet.	Second-ft.
April 23	W. Swendsen	91	4.03	5.10	422
April 25	do	93	4.42	5.00	411
May 4	do	111	5.02	5.60	655
May 5	do	128	5.22	5.70	663
May 9	do	127	5.32	5.70	673
May 11	do	127	5.31	5.70	674
May 17	do	152	0.07	0.20	929
June 4	do	157	0.49	0.25	1,010
July 8	W. D. Beers	120	5.71	5.60	730
August 16	C. Tanner	72	3.41	4.70	244
November 3	W. Swendsen	57	3.05	4.00	173
December 17	C. Tanner	50	2.05	4.40	147

**MEAN DAILY GAGE HEIGHT**  
In feet, of Logan River, near Logan, Utah, for 1904.

Day.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
1		5.50	6.50	5.60	4.90	4.60	4.50	4.55	4.45
2		5.40	6.45	5.60	4.85	4.60	4.60	4.55	4.45
3		5.50	6.35	5.55	4.85	4.60	4.60	4.55	4.45
4		5.55	6.10	5.55	4.80	4.60	4.60	4.55	4.45
5		5.55	6.35	5.50	4.80	4.60	4.60	4.55	4.45
6		5.50	6.20	5.50	4.80	4.65	4.60	4.55	4.45
7		5.70	6.15	5.45	4.80	4.65	4.60	4.55	4.45
8		5.70	6.10	5.40	4.80	4.65	4.60	4.55	4.45
9		5.70	6.05	5.40	4.80	4.65	4.60	4.55	4.45
10		5.80	6.10	5.35	4.80	4.65	4.70	4.50	4.48
11		5.90	6.15	5.30	4.80	4.60	4.60	4.50	4.45
12		5.90	6.10	5.40	4.80	4.60	4.60	4.50	4.48
13		6.00	6.10	5.30	4.80	4.60	4.60	4.50	4.48
14		6.00	6.15	5.30	4.80	4.60	4.60	4.50	4.48
15		6.20	6.15	5.20	4.75	4.60	4.60	4.50	4.48
16		6.20	6.20	5.20	4.75	4.60	4.60	4.50	4.48
17		6.20	6.15	5.20	4.80	4.60	4.60	4.55	4.48
18		6.30	6.20	5.15	4.75	4.60	4.60	4.55	4.48
19		6.30	6.25	5.10	4.75	4.60	4.60	4.55	4.48
20		6.40	6.20	5.05	4.70	4.60	4.60	4.50	4.48
21		6.40	6.10	5.05	4.70	4.70	4.60	4.50	4.48
22		6.40	6.00	5.00	4.70	4.80	4.60	4.45	4.48
23		6.60	6.00	5.00	4.70	4.80	4.60	4.45	4.48
24		6.93	5.00	5.00	4.70	4.85	4.55	4.45	4.48
25		5.00	6.00	5.80	5.00	4.60	4.80	4.55	4.45
26		5.10	6.40	5.80	5.00	4.60	4.80	4.55	4.45
27		5.10	6.30	5.70	5.00	4.60	4.75	4.55	4.45
28		5.20	6.20	5.70	4.90	4.70	4.60	4.55	4.48
29		5.10	6.30	5.75	4.90	4.70	4.50	4.55	4.48
30		5.50	6.40	5.60	4.90	4.70	4.50	4.55	4.48
31		6.45	.....	4.90	4.90	.....	4.55	.....	4.48

**RATING TABLE**  
For Logan River, near Logan, Utah, from April 25 to December 31, 1904.

Gage height,	Discharge,	Gage height,	Discharge,	Gage height,	Discharge,	Gage height,	Discharge,
Feet.	Sec.-feet.	Feet.	Sec.-feet.	Feet.	Sec.-feet.	Feet.	Sec.-feet.
4.45	150	4.85	288	5.50	577	6.30	900
4.50	104	4.90	308	5.60	625	6.40	1,052
4.55	170	4.05	320	5.70	675	6.50	1,108
4.60	195	5.00	350	5.80	720	6.60	1,164
4.65	212	5.10	394	5.90	770	6.70	1,222
4.70	230	5.20	438	6.00	833	6.80	1,280
4.75	240	5.30	483	6.10	887	6.90	1,338
4.80	209	5.40	529	6.20	941		

The above table is applicable only for open-channel conditions. It is based upon 11 discharge measurements made during 1904. It is fairly well defined between gage heights 4.10 feet and 6.25 feet. The table has been extended beyond these limits.

**ESTIMATED MONTHLY DISCHARGE  
Of Logan River, near Logan, Utah, for 1904.**

Month.	Discharge in Second-Feet.			Total in Acre-Feet	Run-Off.	
	Maximum.	Minimum.	Mean.		Sec.-ft. per Sq. mile.	Depth in Inches.
April 25-30	577	350	424	5,046	1.05	.44
May	1,367	529	878	53,990	4.03	4.65
June	1,103	625	876	52,130	4.03	4.20
July	625	308	448	27,550	2.06	2.38
August	308	105	249	15,310	1.142	1.62
September	288	104	211	12,560	.908	1.16
October	230	104	191	11,740	.876	1.07
November	170	150	167	9,937	.776	.93
December	158	150	155	9,531	.711	.82
The period	1,367	150	400	107,800	1.016	17.27

**DISCHARGE MEASUREMENTS  
Of Logan River, near Logan, Utah, in 1905.**

Date.	Hydrographer.	Width,	Area of section,	Mean velocity,	Gage height,	Dis-
						Second- feet.
January 22	W. G. Swendsen	51	40	3.10	4.40	186
February 21	do	50	40	3.26	4.45	160
March 21	do	51	52	2.57	4.40	134
April 17	do	51	58	3.02	4.50	176
June 5	do	57	100	6.86	5.61	637
August 21	W. D. Beers	52	66	2.70	4.66	165
August 24*	do	39	59	2.63	4.48	140
September 14	W. G. Swendsen	51	50	3.20	4.62	101
October 20	do	51	43	2.80	4.40	124
November 26	do	51	42	3.02	4.37	120

\*Measured 300 feet below station.

**DAILY GAGE HEIGHT**  
In feet, of Logan River, near Logan, Utah, for 1905.

Day.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
1	4.45	4.48	4.4	4.43	4.0	5.5	5.1	4.59	4.5	4.43	4.4	4.33
2	4.4	4.48	4.38	4.41	4.95	5.5	5.05	4.6	4.5	4.43	4.4	4.31
3	4.4	4.53	4.38	4.41	4.9	5.55	5.05	4.57	4.5	4.43	4.4	4.32
4	4.4	4.4	4.4	4.41	4.85	5.55	5.05	4.57	4.5	4.4	4.4	4.31
5	4.4	4.5	4.4	4.41	4.75	5.57	5.0	4.57	4.52	4.4	4.4	4.25
6	4.4	4.4	4.4	4.4	4.7	5.58	4.95	4.57	4.52	4.4	4.4	4.25
7	4.4	4.4	4.4	4.45	4.75	5.45	4.9	4.57	4.53	4.4	4.4	4.25
8	4.4	4.4	4.4	4.45	4.8	5.5	4.85	4.57	4.5	4.42	4.4	4.25
9	4.4	4.4	4.42	4.48	4.85	5.6	4.8	4.57	4.48	4.45	4.4	4.25
10	4.4	4.4	4.42	4.46	4.75	5.5	4.75	4.50	4.48	4.45	4.4	4.27
11	4.4	4.4	4.42	4.5	4.8	5.5	4.7	4.50	4.48	4.45	4.4	4.33
12	4.35	4.26	4.47	4.8	5.5	4.7	4.50	4.48	4.43	4.4	4.33	
13	4.35	4.28	4.42	4.46	4.8	5.45	4.67	4.50	4.47	4.43	4.4	4.36
14	4.45	4.3	4.42	4.5	4.85	5.45	4.65	4.50	4.47	4.43	4.38	4.32
15	4.43	4.35	4.42	4.45	4.75	5.3	4.65	4.55	4.47	4.43	4.38	4.35
16	4.44	4.38	4.48	4.49	4.85	5.4	4.65	4.55	4.5	4.43	4.38	4.38
17	4.43	4.35	4.48	4.47	4.93	5.35	4.65	4.54	4.45	4.43	4.38	4.3
18	4.43	4.3	4.47	4.48	5.3	5.2	4.65	4.54	4.45	4.45	4.35	
19	4.43	4.35	4.45	4.5	5.3	5.2	4.65	4.55	4.47	4.45	4.35	4.38
20	4.43	4.3	4.47	4.5	5.3	5.1	4.65	4.54	4.47	4.45	4.35	4.35
21	4.43	4.3	4.41	4.55	5.3	5.1	4.65	4.5	4.40	4.43	4.35	4.38
22	4.45	4.45	4.45	4.55	5.25	5.07	4.63	4.54	4.45	4.43	4.33	4.38
23	4.45	4.38	4.4	4.65	5.25	5.1	4.65	4.5	4.45	4.42	4.35	4.33
24	4.47	4.4	4.45	4.65	5.2	5.1	4.65	4.48	4.46	4.42	4.35	4.35
25	4.45	4.38	4.43	4.65	5.25	5.1	4.6	4.5	4.48	4.42	4.35	4.35
26	4.45	4.3	4.7	5.3	5.1	4.6	4.5	4.49	4.4	4.32	4.4	
27	4.43	4.38	4.42	4.8	5.3	5.1	4.6	4.48	4.47	4.4	4.29	4.38
28	4.43	4.38	4.45	4.8	5.35	5.1	4.6	4.5	4.47	4.4	4.4	4.38
29	4.43	4.46	4.75	5.3	5.1	4.6	4.5	4.47	4.4	4.38	4.38	
30	4.43	4.45	4.8	5.3	5.1	4.6	4.45	4.45	4.4	4.3	4.35	
31	4.43	4.45	4.45	5.35	5.35	4.6	4.5	4.4	4.4	4.38		

Note.—Stream does not freeze at this point during winter months in sufficient amount to materially affect the rating.

**STATION RATING TABLE**  
For Logan River, near Logan, Utah, from April 25, 1904, to December 31, 1905.

Gage height.	Discharge.						
Feet.	Sec. feet.						
4.30	100	5.00	350	5.70	675	6.40	1,032
4.40	130	5.10	394	5.80	720	6.50	1,108
4.50	104	5.20	438	5.90	770	6.00	1,161
4.60	105	5.30	483	6.00	833	6.70	1,222
4.70	230	5.40	529	6.10	887	6.80	1,280
4.80	268	5.60	577	6.20	911	6.90	1,338
4.90	308	5.60	625	6.30	960		

Note.—The above table is applicable only for open-channel conditions. It is based on 21 discharge measurements made during 1904-1905. It is fairly well defined between gage heights 4.4 feet and 6.25 feet.

**ESTIMATED MONTHLY DISCHARGE  
Of Logan River, near Logan, Utah, for 1905.  
(Drainage area, 218 square miles.)**

Month.	Discharge in Second-Feet.			Total in Acre-Feet.	Run-Off.	
	Maximum.	Minimum.	Mean.		Sec.-ft. per Sq. mile.	Depth in Inches.
January	155	122	142	8,731	0.651	0.750
February	173	96	131	7,275	.601	.626
March	157	131	144	8,854	.661	.702
April	208	130	177	10,530	.812	.906
May	500	230	368	22,630	1.69	1.95
June	615	382	496	20,510	2.28	2.54
July	394	195	248	15,250	1.14	1.31
August	105	150	176	10,820	.807	.930
September	173	150	158	9,402	.725	.809
October	150	130	143	8,793	.656	.756
November	136	106	129	7,076	.502	.660
December	136	90	118	7,256	.511	.624
The year	615	96	202	140,700	.930	12.62

Note.—Discharge interpolated on days when gage was not read.

**PRECIPITATION  
At Logan, in drainage basin of Logan River.**

Year.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.	Ann.
1891	-----	-----	-----	-----	2.48	1.10	0.18	0.18	1.44	0.20	0.67	-----	-----
1892	-----	-----	-----	0.90	3.00	1.80	0.31	0.00	-----	0.32	0.50	1.70	-----
1895	0.65	2.45	2.04	2.16	1.73	0.14	0.01	0.11	1.37	0.59	0.02	1.44	14.51
1896	1.80	1.45	1.72	1.41	0.88	0.74	0.28	0.68	2.60	0.07	0.00	2.13	14.27
1897	2.13	0.45	1.71	1.05	2.27	0.51	0.11	0.18	1.00	0.01	1.70	0.05	13.00
1898	1.31	0.95	1.73	2.11	3.17	0.40	1.40	1.40	0.01	0.03	1.07	0.57	16.15
1899	0.00	2.33	2.81	1.74	0.50	0.60	0.71	0.25	1.28	2.02	2.44	1.22	17.45
1900	0.88	0.52	1.31	1.59	5.02	0.85	0.15	0.11	0.18	1.34	0.70	0.18	13.18
1901	1.20	0.70	1.70	0.80	1.37	0.00	0.00	0.70	0.02	2.58	1.32	0.80	12.07
1902	0.50	0.78	0.58	4.07	1.42	0.10	0.51	0.71	0.01	2.38	2.00	0.23	15.00
1903	1.33	1.55	1.40	1.35	2.43	0.41	0.07	1.00	1.03	1.83	0.33	1.32	14.47
1904	0.28	0.95	2.63	2.52	2.10	0.71	0.52	0.27	0.00	0.51	1.80	1.02	13.33
1905	2.02	0.88	0.62	2.01	2.80	0.26	0.35	0.12	0.00	1.01	2.20	0.08	18.07
1906	1.23	2.25	3.18	1.61	0.85	0.47	0.82	0.82	0.17	1.57	0.00	0.00	13.52
1907	0.40	1.22	2.22	1.00	2.13	0.03	0.20	0.73	2.07	0.37	0.01	0.30	12.61
1908	2.28	2.02	1.70	2.47	5.05	1.48	0.71	4.55	1.02	0.00	1.07	1.00	25.49
Mean	1.21	1.24	1.70	1.89	2.81	0.60	0.11	0.77	1.12	1.08	1.15	1.00	14.07

\*Missing; mean value inserted.

**MONTHLY DISCHARGE**  
In thousands of acre feet, of Logan River, near Logan, Utah.

In thousands of acre feet, of Logan River, near Logan, Utah.

\*Drainage area, 218 square miles.)

Year.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Total.	Sec. Ft. per Sq. Mi.	Depth in Inches.	Run-Off.	
																Sec. Ft.	
1866																	
1867	9.22	8.22	9.22	18.86	77.72	58.91	30.21	20.20	16.07	16.23	13.81	11.56	200.54	1.83	25.02		
1868	9.25	8.16	8.61	19.22	56.08	39.45	19.80	14.20	10.80	10.58	9.52	8.56	194.22	1.23	16.68		
1869	14.06	12.53	14.20	40.58	91.96	67.64	31.85	22.55	20.78	18.09	17.04	16.16	369.16	2.34	31.75		
1870	11.57	9.29	11.74	17.85	44.23	41.12	20.84	14.14	11.54	11.56	10.71	10.21	216.31	1.36	18.54		
1871	9.75	8.61	9.20	14.04	55.40	39.69	14.76	12.11	12.56	12.56	12.56	12.56	180.56	1.36	18.54		
1872	8.73	7.28	8.85	10.53	20.18	33.90	32.12	27.85	15.31	15.31	9.94	9.53	146.70	0.93	12.62		
Mean	10.50	9.05	10.57	17.22	47.25	54.47	28.94	17.64	13.88	13.82	10.35	10.33	245.19	1.54	20.33		

### Bear River, near Collinston, Utah.

This station was established July 1, 1889. It is located 6 miles from Collinston station on the Oregon Short Line Railroad, about one-fourth mile below the electric-power plant in Bear River Canyon. It is at the lower end of the canyon separating Cache and Great Salt Lake valleys, at a point below all diversion from the stream. It shows the amount of unappropriated water that is discharged as waste into Great Salt Lake.

The stream at this point is wide and shallow. Both banks are sufficiently high to prevent overflow; the west bank slopes gradually, while the east is abrupt. The bed is composed of boulders and clay and is somewhat rough, but apparently permanent. A deposit of material which was washed into the stream by the water from a spillway at the power plant during 1903 changed the original condition considerably during 1903 and 1904. The cross section was rechecked, however, in March, 1905, and found to agree very closely with the original standard cross section, the new material having been washed out. The velocity ranges from 2 to 4 feet per second. There is a free flow except at a small hole near the east bank. The discharge ranges from 7,000 feet during flood season to nothing during the summer, when the entire flow is diverted for irrigation above the station. The stream probably never freezes entirely over, but ice forms along the edges to quite an extent during December and January.

Discharge measurements were originally made from a small boat attached by means of a chain and pulley to a cable stretched across the stream. During 1904 discharge measurements were made from a bridge recently built across the stream at the power house, but owing to poor conditions at this point a cable and car were established at the old section in January, 1905. The total length of the span is 301 feet. The cable is marked at 20-foot intervals with paint, beginning at the west post, which is the initial point for soundings.

The gage, which is read daily by D. A. Cannon, a watchman along the Bear River canals, consisted originally of a vertical iron bar driven into the river bed and supported at the

top by a horizontal bar fastened to posts on the bank. It was replaced in February, 1905, by an inclined gage. This is a 6 by 6 inch fir, fastened by means of iron straps to three posts firmly embedded in the bank, and graduated to read vertically. It is located at the same point as the old vertical gage. The low-water gage is an iron peg driven into the bed of the stream about 50 feet from the west bank. It has the same datum as the regular gage. The gage is referred to bench marks as follows: (1) A metallic post, 3 inches in diameter and 4 feet long, set in the ground at a point 30 feet S.  $74^{\circ}$  W. from the west post supporting the cable; elevation, 9.59 feet above zero of gage, and so stamped on the top; (2) a nail in an oak post 20 feet west of the gage and 20 feet north of the cable; elevation above gage datum, 7.35 feet.

Information in regard to this station is contained in the following publications of the United States Geological Survey (Ann—Annual Report; Bull—Bulletin; WS—Water Supply Paper):

Description: Ann 18, iv, p 319; Bull 131, pp 55-56; 140, p 227; WS 16, p 159; 28, p 146; 38, pp 335-336; 51, p 413; 66, p 120; 85, p 80; 100, p 131; 133, p 433.

Discharge: Ann 18, iv, p 319; Bull 131, pp 90, 92; 140, p 228; WS 16, p 159; 28, p 153; 35, pp 18-19; 38, p 336; 51, p 413; 66, p 120; 85, p 80; 100, p 131; 133, p 244.

Discharge, monthly: Ann 11, ii, p 103; 12, ii, pp 352, 360; 13, iii, p 96; 14, ii, pp 120-121; 18, iv, p 320; 19, iv, p 435; 20, iv, pp 458-460; 21, iv, p 395; 22, iv, p 410; Bull 140, p 229; WS 75, p 193; 85, p 82; 100, p 133; 133, p 245.

Discharge, yearly: Ann 11, ii, p 69; 13, iii, p 99; 20, iv, p 60.

Gage heights: Bull 131, pp 56-57; 140, p 229; WS 11, p 77; 16, p 159; 28, p 150; 38, p 336; 51, p 414; 66, p 121; 85, p 81; 100, p 132; 133, p 244.

Hydrographs: Ann 12, ii, p 332; 14, ii, p 121; 18, iv, p 320; 19, iv, p 435; 20, iv, p 461; 21, iv, p 395; 22, iv, p 411.

Rainfall and run-off relation: Ann 20, iv, p 459.

Rating tables: Ann 18, iv, p 320; 19, iv, p 434; Bull 140, p 228; WS 28, p 154; 39, p 453; 52, p 521; 66, p 176; 85, p 81; 100, p 132; 133, p 245.

**ESTIMATED MONTHLY DISCHARGE  
Of Bear River, near Collinston, Utah, for 1889.  
(Drainage area, 6,000 square miles.)**

Month.	Discharge in Second-Feet.			Total in Acre-Feet.	Run-Off.	
	Maximum.	Minimum.	Mean.		Sec.-ft. per Sq. mile.	Depth in Inches.
June -----			800	47,600	0.13	0.15
July 24-31 -----	385	340	362	22,263	0.06	0.07
August -----	450	385	417	25,645	0.07	0.08
September -----	610	450	509	30,285	0.08	0.09
October -----	825	610	728	44,772	0.12	0.14
November -----	1,000	780	848	50,450	0.14	0.16
December -----	1,925	955	1,395	85,702	0.23	0.27

**ESTIMATED MONTHLY DISCHARGE  
Of Bear River, near Collinston, Utah, for 1890.  
(Drainage area, 6,000 square miles.)**

Month.	Discharge in Second-Feet.			Total in Acre-Feet.	Run-Off.	
	Maximum.	Minimum.	Mean.		Sec.-ft. per Sq. mile.	Depth in Inches.
January -----			1,500	92,260	0.25	0.20
February -----			1,000	55,600	0.17	0.17
March -----	4,850	1,100	3,188	100,002	0.53	0.61
April -----	6,080	3,000	4,053	204,703	0.83	0.92
May -----	8,220	6,800	7,024	487,320	1.32	1.52
June -----	7,010	4,440	6,234	270,023	1.01	1.10
July -----	4,230	2,000	3,250	109,875	0.51	0.62
August -----	2,000	1,545	1,751	107,871	0.29	0.34
September -----	1,425	1,310	1,344	80,050	0.22	0.25
October -----	1,005	1,305	1,544	95,000	0.20	0.30
November -----	1,425	1,305	1,403	83,550	0.23	0.26
December -----	1,615	1,000	1,243	70,500	0.20	0.24
The year -----	8,220	1,000	2,945	2,130,350	0.40	0.08

**ESTIMATED MONTHLY DISCHARGE**  
**Of Bear River, near Collinston, Utah, for 1891.**  
 (Drainage area, 6,000 square miles.)

Month.	Discharge in Second-Feet.			Total in Acre-Feet	Run-Off.	
	Maximum	Minimum	Mean		Sec. ft. per Sq. mile.	Depth in Inches.
January			1,000	61,500	0.17	0.19
February	2,200	825	1,308	72,594	0.22	0.23
March	2,340	1,425	1,766	108,710	0.29	0.34
April	5,000	1,005	2,720	162,375	0.45	0.51
May	5,000	4,020	4,500	280,093	0.70	0.88
June	4,720	2,480	3,505	213,002	0.60	0.67
July	2,270	1,100	1,500	96,003	0.28	0.30
August	1,100	825	938	57,087	0.16	0.18
September	1,200	825	986	58,007	0.16	0.18
October	1,310	1,200	1,235	75,052	0.21	0.21
November	1,310	1,200	1,262	75,080	0.21	0.24
December	1,515	1,100	1,216	74,784	0.20	0.23
The year	5,000	825	1,817	1,338,316	0.31	0.40

**ESTIMATED MONTHLY DISCHARGE**  
**Of Bear River, near Collinston, Utah, for 1892.**  
 (Drainage area, 6,000 square miles.)

Month.	Discharge in Second-Feet.			Total in Acre-Feet	Run-Off.	
	Maximum	Minimum	Mean		Sec. ft. per Sq. mile.	Depth in Inches.
January	1,515	1,000	1,202	73,923	0.20	0.23
February	1,310	1,000	1,200	69,517	0.20	0.22
March	2,480	1,310	2,037	125,275	0.31	0.39
April	2,700	1,025	2,307	142,021	0.40	0.45
May	6,200	2,480	5,860	237,043	0.61	0.71
June	6,200	4,700	5,600	330,770	0.61	1.05
July	4,050	1,515	3,037	186,775	0.51	0.58
August	1,515	1,000	1,105	73,402	0.20	0.23
September	1,000	1,000	1,000	60,500	0.17	0.19
October	1,200	1,000	1,131	60,550	0.19	0.22
November	1,310	1,100	1,105	71,102	0.20	0.22
December	1,425	1,100	1,235	76,052	0.21	0.31
The year	6,200	1,000	2,007	1,522,100	0.35	0.70

**DISCHARGE MEASUREMENTS**  
**Of Bear River, near Collinston, Utah, in 1893.**

Date.	Hydrographer,	Gage height, Feet.	Discharge, Second-feet.	
			140	716
September 2	F. H. Newell			

**DAILY GAGE HEIGHT**  
Of Bear River, at Collinston, Utah, for 1893.

Day.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
1	2.10	2.10	1.90	3.50	4.10	4.90	4.05	1.90	1.60	1.90	2.10	2.40
2	2.05	2.15	1.90	3.55	4.10	4.85	4.00	1.90	1.60	1.90	2.10	2.40
3	2.00	2.10	1.80	3.80	4.20	4.80	3.90	2.00	1.60	1.90	2.20	2.40
4	2.10	2.00	1.80	3.90	4.20	4.90	3.80	2.00	1.60	2.00	2.20	2.40
5	2.10	2.25	1.90	4.00	4.40	4.70	3.70	1.90	1.60	2.00	2.20	2.30
6	2.10	2.15	1.90	4.20	4.30	4.60	3.60	1.90	1.60	2.00	2.20	2.30
7	2.10	2.20	1.80	4.20	4.30	4.50	3.50	1.80	1.70	1.90	2.20	2.20
8	2.10	2.30	1.70	4.10	4.30	4.60	3.50	1.80	1.70	1.90	2.10	2.20
9	2.20	2.20	1.70	3.90	4.40	4.60	3.30	1.80	1.70	1.90	2.10	2.20
10	2.00	2.20	1.80	3.90	4.40	4.70	3.10	1.70	1.70	1.90	2.10	2.20
11	2.10	2.00	1.80	4.10	4.50	4.90	3.00	1.70	1.70	2.00	2.10	2.20
12	2.10	1.90	1.80	4.20	4.70	4.90	2.90	1.60	1.70	2.00	2.10	2.30
13	2.00	1.90	1.90	4.30	4.80	5.00	2.80	1.60	1.70	2.00	2.00	2.30
14	2.00	1.85	1.90	4.30	4.90	5.00	2.70	1.60	1.70	2.00	2.00	2.30
15	2.00	1.80	2.00	4.30	5.15	5.10	2.70	1.70	1.70	2.00	2.00	2.30
16	2.00	1.80	2.00	4.15	5.25	5.10	2.60	1.70	1.70	1.90	2.00	2.30
17	2.00	1.90	2.10	4.00	5.40	5.00	2.60	1.70	1.70	1.90	2.00	2.30
18	2.00	1.80	2.20	3.85	5.55	5.05	2.50	1.70	1.70	2.00	2.00	2.20
19	2.10	1.70	2.20	3.80	5.75	5.10	2.50	1.60	1.70	2.00	2.00	2.10
20	2.10	1.70	2.30	3.80	5.95	5.00	2.40	1.60	1.70	2.00	2.00	2.10
21	2.10	1.70	2.40	3.70	6.00	4.00	2.40	1.60	1.70	2.00	2.00	2.10
22	2.00	1.80	2.50	3.70	6.05	4.80	2.40	1.70	1.70	2.00	2.00	2.00
23	2.00	1.80	2.60	3.75	5.95	4.70	2.30	1.70	1.80	2.00	2.00	2.00
24	2.00	1.80	2.70	3.75	5.80	4.60	2.30	1.70	1.80	2.00	2.00	1.90
25	2.00	1.90	2.80	4.00	5.55	4.60	2.30	1.60	1.80	2.00	2.00	1.90
26	2.10	1.00	2.00	4.10	5.40	4.50	2.20	1.60	1.80	2.00	2.10	1.80
27	2.10	1.00	3.00	4.15	5.20	4.40	2.20	1.60	1.80	2.10	2.10	1.80
28	2.10	1.80	3.10	4.30	4.75	4.30	2.10	1.70	1.80	2.10	2.20	1.80
29	2.05	-----	3.20	4.25	4.05	4.20	2.10	1.60	1.90	2.10	2.30	1.80
30	2.10	-----	3.30	4.15	4.00	4.10	2.00	1.60	1.90	2.10	2.30	1.80
31	2.00	-----	3.40	-----	4.60	-----	2.00	1.60	-----	2.10	-----	1.80

STATION RATING TABLE  
For Bear River, near Collinston, Utah, from Jan 1, 1893, to Dec. 31, 1894.

Gage Height. Feet.	Discharge. Sec.-ft.	Gage Height. Feet.	Discharge. Sec.-ft.	Gage Height. Feet.	Discharge. Sec.-ft.	Gage Height. Feet.	Discharge. Sec.-ft.	Gage Height. Feet.	Discharge. Sec.-ft.	Gage Height. Feet.	Discharge. Sec.-ft.
1.00	300	2.00	1,525	3.00	2,750	4.00	4,000	5.00	5,225	6.00	6,475
1.10	425	2.10	1,050	3.10	2,875	4.10	4,120	5.10	5,350	6.10	6,600
1.20	550	2.20	1,775	3.20	3,000	4.20	4,240	5.20	5,475	6.20	6,725
1.30	675	2.30	1,900	3.30	3,125	4.30	4,360	5.30	5,600	6.30	6,810
1.40	780	2.40	2,025	3.40	3,250	4.40	4,485	5.40	5,725	6.40	6,900
1.50	910	2.50	2,150	3.50	3,375	4.50	4,610	5.50	5,850	6.50	7,075
1.60	1,025	2.60	2,275	3.60	3,500	4.60	4,730	5.60	5,975	6.60	7,200
1.70	1,150	2.70	2,400	3.70	3,625	4.70	4,855	5.70	6,100	6.70	7,325
1.80	1,280	2.80	2,510	3.80	3,750	4.80	4,980	5.80	6,225	6.80	7,450
1.00	1,400	2.00	2,030	3.90	3,875	4.90	5,100	5.90	6,350	6.90	7,575

Based on measurements made in 1893-95.

**ESTIMATED MONTHLY DISCHARGE  
Of Bear River, near Collinston, Utah, for 1893.  
(Drainage area, 6,000 square miles.)**

Month.	Discharge in Second-Feet.			Total in Acre-Feet.	Run-Off.	
	Maximum.	Minimum.	Mean.		Sec.-ft. per Sq. mile.	Depth in Inches.
January -----	1,650	1,525	1,600	98,380	0.27	0.31
February -----	1,835	1,150	1,455	80,805	0.25	0.26
March -----	3,250	1,150	1,840	113,140	0.30	0.35
April -----	4,360	3,375	3,985	237,125	0.66	0.74
May -----	6,535	4,120	5,120	314,815	0.85	0.88
June -----	5,350	4,120	4,915	202,460	0.82	0.91
July -----	4,000	1,525	2,540	156,180	0.42	0.48
August -----	1,525	1,025	1,170	71,910	0.10	0.22
September -----	1,400	1,025	1,150	68,430	0.10	0.21
October -----	1,650	1,400	1,525	93,770	0.25	0.30
November -----	1,000	1,525	1,650	98,180	0.28	0.31
December -----	2,025	1,280	1,700	104,530	0.28	0.32
The year -----	6,635	1,025	2,895	1,720,755	0.40	0.30

**DISCHARGE MEASUREMENTS  
Of Bear River, near Collinston, Utah, in 1894.**

Date.	Hydrographer.	Gage height.	Discharge.	
			Feet.	Second-feet.
October 6.....	S. Fortler .....	2.01		1,800
December 22.....	do .....	2.10		1,875

**DAILY GAGE HEIGHT**  
Of Bear River, at Collinston, Utah, for 1894.

Day.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
1-----	1.80	1.90	1.90	5.00	5.40	6.90	4.50	2.00	1.80	2.10	2.10	2.00
2-----	1.70	1.90	1.80	4.90	5.50	6.90	4.30	2.00	1.70	2.10	2.10	2.00
3-----	1.70	1.80	1.80	5.00	5.40	7.00	4.00	2.00	1.80	2.20	2.10	2.00
4-----	1.70	1.90	1.90	5.00	5.30	7.00	3.90	1.90	1.80	2.20	2.00	2.00
5-----	1.70	1.90	1.90	5.10	5.30	7.00	3.70	2.00	1.80	2.20	2.00	2.00
6-----	1.70	1.90	1.80	5.20	5.20	6.90	3.60	2.00	1.90	2.10	2.00	2.00
7-----	1.80	1.90	1.80	5.30	5.20	6.80	3.60	2.00	1.90	2.20	1.90	2.00
8-----	1.70	1.90	1.90	5.30	5.30	6.80	3.50	1.90	1.90	2.20	1.90	2.00
9-----	1.70	1.80	1.90	5.30	5.50	6.70	3.50	1.90	1.80	2.20	1.90	*
10-----	1.70	1.80	1.90	5.40	5.60	6.60	3.40	1.90	2.00	2.20	1.90	*
11-----	1.80	1.80	2.00	5.40	5.70	6.50	3.30	1.90	2.00	2.10	2.00	*
12-----	1.80	1.80	2.20	5.30	5.80	6.40	3.30	1.70	2.00	2.10	2.00	*
13-----	1.80	1.90	2.40	5.30	5.80	6.20	3.20	1.70	1.90	2.10	2.00	*
14-----	1.00	1.90	2.50	5.20	5.90	6.20	3.00	1.70	1.90	2.10	2.00	*
15-----	1.00	1.80	2.70	5.30	6.00	6.10	3.00	1.70	1.80	2.10	2.00	*
16-----	1.00	1.90	2.70	5.20	6.10	6.00	3.00	1.60	1.90	2.10	2.00	2.00
17-----	1.80	1.90	2.80	5.20	6.30	6.00	2.90	1.60	1.90	2.00	1.90	2.00
18-----	1.80	1.80	2.80	5.00	6.30	5.80	2.80	1.60	2.00	2.00	1.90	2.00
19-----	1.00	1.80	2.90	4.80	6.40	5.70	2.70	1.60	2.00	2.00	1.90	2.00
20-----	1.00	1.00	3.00	4.70	6.20	5.50	2.60	1.60	2.10	2.10	1.90	1.90
21-----	1.00	1.80	3.10	4.60	6.10	5.40	2.50	1.60	2.20	2.10	1.90	1.90
22-----	1.00	1.80	3.10	4.70	6.20	5.20	2.60	1.60	2.30	2.10	1.90	1.90
23-----	1.80	1.80	3.10	4.80	6.40	5.10	2.60	1.60	2.20	2.10	1.90	2.00
24-----	1.80	1.80	3.00	4.90	6.40	4.90	2.50	1.60	2.20	2.10	1.90	2.00
25-----	1.80	1.80	3.40	4.90	6.50	4.80	2.40	1.60	2.10	2.00	1.90	2.00
26-----	1.00	1.80	3.60	5.00	6.50	4.70	2.40	1.60	2.10	2.00	1.90	2.00
27-----	1.00	1.00	3.80	5.10	6.50	4.60	2.30	1.70	2.00	2.00	1.90	2.10
28-----	1.00	1.00	4.00	5.30	6.00	4.60	2.20	1.60	2.00	2.00	1.90	2.10
29-----	1.80	-----	4.30	5.40	6.70	4.60	2.10	1.70	2.00	2.00	2.00	2.10
30-----	1.80	-----	4.60	5.60	6.80	4.40	2.10	1.70	2.00	2.00	2.00	2.00
31-----	1.80	-----	4.80	-----	6.00	-----	2.10	1.70	-----	2.00	-----	2.00

\*Missing.

**ESTIMATED MONTHLY DISCHARGE**  
Of Bear River, near Collinston, Utah, for 1894.  
(Drainage area, 0,000 square miles.)

Month.	Discharge in Second-Feet.			Total in Acre-Feet.	Run-Off.	
	Maximum	Minimum	Mean		Sec.-ft. per Sq. mile.	Depth in Inches.
January -----	1,400	1,150	1,280	78,705	0.21	0.24
February -----	1,400	1,280	1,340	74,420	0.22	0.23
March -----	4,080	1,290	2,435	140,720	0.60	0.60
April -----	5,850	4,730	5,355	318,615	0.00	1.00
May -----	7,575	5,475	6,780	417,263	1.13	1.29
June -----	7,770	4,485	6,357	378,270	1.00	1.18
July -----	4,010	1,050	2,780	170,933	0.40	0.53
August -----	1,525	1,025	1,250	76,800	0.21	0.24
September -----	1,000	1,150	1,525	90,745	0.25	0.28
October -----	1,775	1,525	1,650	101,453	0.27	0.31
November -----	1,030	1,400	1,405	97,176	0.24	0.27
December -----	1,030	1,400	1,525	93,770	0.20	0.20
The year ..	7,770	1,025	2,812	2,037,455	0.40	0.55

**DISCHARGE MEASUREMENTS**  
Of Bear River, near Collinston, Utah, in 1895.

Date.	Hydrographer.	Gage height.	Discharge.	
			Feet.	Second-feet.
April 8	W. F. Culmer and others	3.16	3,041	
April 15		3.75	3,853	
April 22		3.58	3,453	
April 29		3.61	3,460	
August 19		1.17	819	
September 23		1.62	1,058	
December 9		1.05	1,307	

**DAILY GAGE HEIGHT**  
Of Bear River, at Collinston, Utah, for 1895.

Day.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
1	2.00	1.00	2.10	4.25	3.00	3.70	1.00	1.40	1.10	1.00	1.70	1.00
2	2.10	1.00	2.10	3.00	4.10	3.70	1.00	1.40	1.10	1.00	1.70	1.00
3	2.10	2.10	2.00	3.20	4.20	3.70	1.80	1.30	1.10	1.00	1.70	1.00
4	2.10	2.10	2.00	2.05	4.40	3.70	1.80	1.30	1.10	1.00	1.70	1.00
5	2.00	2.10	1.00	2.40	4.55	3.60	1.70	1.30	1.10	1.00	1.70	1.00
6	2.10	2.00	1.80	2.30	4.60	3.55	1.70	1.20	1.10	1.00	1.70	1.00
7	2.10	2.00	1.00	2.30	4.00	3.50	1.50	1.20	1.10	1.00	1.70	1.00
8	2.00	2.10	1.80	2.50	4.60	3.50	1.50	1.20	1.10	1.00	1.70	1.00
9	2.00	2.10	2.10	2.70	4.60	3.30	1.50	1.20	1.10	1.00	1.70	1.00
10	2.00	2.05	2.10	2.05	4.05	3.20	1.50	1.20	1.10	1.00	1.80	1.00
11	2.00	2.05	2.00	3.15	4.70	3.10	1.50	1.20	1.10	1.00	1.80	1.00
12	2.00	2.05	2.10	3.30	4.55	3.10	1.50	1.20	1.20	1.00	1.80	1.00
13	2.00	2.00	2.10	3.30	4.35	3.00	1.50	1.20	1.20	1.00	1.80	1.00
14	2.00	2.00	2.00	3.50	4.30	3.00	1.25	1.20	1.25	1.00	1.80	1.00
15	2.00	1.05	2.00	3.55	4.30	2.00	1.15	1.20	1.20	1.60	1.60	1.00
16	2.10	2.00	2.00	3.70	4.30	2.75	1.00	1.10	1.20	1.00	1.80	1.00
17	2.10	2.00	2.10	3.70	4.30	2.70	1.00	1.10	1.20	1.00	1.80	1.00
18	2.10	2.00	2.10	3.70	4.30	2.05	0.00	1.10	1.20	1.00	1.80	1.00
19	2.10	2.10	2.20	3.70	4.30	2.00	0.85	1.10	1.20	1.00	1.80	1.00
20	2.00	2.10	2.20	3.70	4.20	2.55	0.75	1.10	1.20	1.70	1.80	1.00
21	2.10	2.10	2.30	3.70	4.20	2.50	1.00	1.10	1.20	1.70	1.80	1.00
22	2.10	2.00	2.30	3.60	4.10	2.40	1.00	1.10	1.20	1.70	1.80	1.00
23	2.10	2.00	2.30	3.60	4.05	2.40	1.00	1.10	1.40	1.70	1.80	1.00
24	2.00	2.20	2.40	3.50	3.70	2.35	1.00	1.10	1.50	1.70	1.80	1.00
25	2.00	2.20	2.50	3.50	3.80	2.25	1.00	1.10	1.50	1.70	1.90	1.00
26	2.00	2.20	2.50	3.60	3.80	2.25	1.00	1.10	1.00	1.70	1.90	1.00
27	2.00	2.10	2.75	3.60	3.80	2.05	1.00	1.10	1.00	1.70	1.90	1.00
28	2.00	2.10	3.50	3.60	3.70	1.95	1.70	1.10	1.00	1.70	1.90	1.00
29	2.00	-----	3.00	3.00	3.70	1.95	1.00	1.10	1.00	1.70	1.90	1.00
30	2.00	-----	4.30	-----	3.70	2.00	1.00	1.10	1.00	1.70	1.90	1.00
31	2.00	-----	4.25	-----	3.70	-----	1.50	1.10	1.70	-----	1.90	1.00

ESTIMATED MONTHLY DISCHARGE  
Of Bear River, near Collinston, Utah, for 1895.  
(Drainage area, 6,000 square miles.)

Month.	Discharge in Second-Feet.			Total in	Run-Off.	
	Maximum.	Minimum.	Mean.		Sec.ft. per Sq. mile.	Depth in Inches.
January	1,080	1,570	1,010	98,995	0.27	0.31
February	1,800	1,455	1,030	90,526	0.27	0.28
March	4,460	1,350	2,030	124,820	0.34	0.39
April	3,945	1,920	3,244	193,031	0.54	0.60
May	4,900	3,085	4,329	266,180	0.72	0.83
June	3,685	1,512	2,027	156,317	0.44	0.49
July	1,455	540	901	59,090	0.16	0.18
August	980	750	813	49,080	0.14	0.16
September	1,155	750	873	51,047	0.15	0.17
October	1,250	1,155	1,192	73,203	0.20	0.23
November	1,455	1,250	1,341	70,705	0.22	0.24
December	1,455	1,455	1,455	89,464	0.24	0.28
The year	4,000	540	1,812	1,333,447	0.31	4.16

DISCHARGE MEASUREMENTS  
Of Bear River, near Collinston, Utah, in 1896.

Date.	Hydrographer.	Gage height.	Discharge.	
			Feet.	Second-feet.
April 20	J. L. Rhoads	3.25		2,808
July 23	do	2.24		1,724
August 8	do	2.14		1,470
August 28	do	1.88		1,339
September 26	do	1.01		1,349

DAILY GAGE HEIGHT  
Of Bear River, at Collinston, Utah, for 1896.

Day.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
1	1.00	1.80	1.70	3.20	3.00	5.00	4.15	2.30	1.80	2.00	2.00	-----
2	1.00	1.80	1.70	3.30	3.00	5.00	3.05	2.30	1.80	1.95	2.00	2.30
3	1.00	1.80	1.70	3.10	3.75	5.00	3.75	2.30	1.80	1.95	2.00	-----
4	1.05	1.70	1.70	3.00	3.75	0.05	3.65	2.30	1.80	1.95	2.00	2.70
5	1.00	1.70	1.70	3.00	3.85	0.15	3.10	2.30	1.80	1.95	2.05	-----
6	1.00	1.70	1.70	3.10	3.95	0.30	3.20	2.20	1.80	1.90	2.03	-----
7	1.00	1.70	1.70	3.10	4.00	0.30	3.10	2.20	1.75	1.90	2.03	-----
8	1.00	1.70	1.70	3.20	4.00	0.20	3.00	2.20	1.75	1.90	2.03	-----
9	1.00	1.70	1.70	3.30	4.10	0.30	2.90	2.10	1.80	1.90	2.03	-----
10	1.00	1.70	1.70	3.30	4.10	0.40	2.80	2.00	1.80	1.90	2.10	-----
11	1.00	1.70	1.70	3.30	4.00	0.40	2.70	2.00	1.80	1.90	2.15	-----
12	1.00	1.70	1.70	3.40	3.95	0.40	2.70	1.95	1.80	1.90	2.20	-----
13	1.00	1.70	1.70	3.40	3.80	0.40	2.00	1.90	1.85	1.90	2.10	-----
14	2.00	1.70	1.70	3.60	3.75	0.55	1.85	1.90	1.90	2.00	2.00	-----

DAILY GAGE HEIGHT—(Continued.)  
Of Bear River, near Collinston, Utah, in 1896.

15	2.00	1.70	1.70	3.50	3.60	6.55	2.50	1.80	1.90	1.90	2.00	2.20
16	2.00	1.70	1.70	3.50	3.10	6.30	2.50	1.80	1.85	1.90	2.05	—
17	2.10	1.70	1.70	3.50	3.60	6.00	2.50	1.75	1.85	1.90	2.00	—
18	2.10	1.70	1.70	3.60	3.50	5.90	2.50	1.70	1.85	1.90	2.10	2.10
19	2.20	1.70	1.70	3.35	3.50	5.80	2.50	1.70	1.80	1.90	2.10	—
20	2.30	1.70	1.70	3.25	3.40	5.70	2.40	1.75	1.80	1.90	2.10	—
21	2.30	1.70	1.70	3.15	3.40	5.60	2.30	1.80	1.80	1.90	2.10	—
22	2.20	1.70	1.70	3.10	3.40	5.50	2.20	1.90	1.85	1.90	2.15	—
23	2.10	1.70	1.90	3.10	3.40	5.40	2.20	1.90	1.90	1.90	2.20	—
24	2.00	1.70	2.00	3.20	3.65	5.35	2.10	1.85	1.90	1.90	2.25	—
25	2.00	1.70	2.10	3.20	3.00	5.20	2.20	1.80	1.90	1.90	2.30	—
26	1.70	1.70	2.20	3.10	4.10	5.10	2.25	1.85	1.95	1.90	2.30	—
27	1.70	1.70	2.30	3.30	4.45	4.80	2.30	1.85	1.95	2.00	2.30	—
28	1.70	1.70	2.40	3.40	4.65	4.80	2.25	1.90	1.95	2.00	2.30	2.20
29	1.70	1.70	2.70	3.40	4.85	4.60	2.20	1.90	2.00	2.00	2.30	—
30	1.70	—	2.90	3.50	4.95	4.40	2.20	1.85	2.00	2.00	2.30	2.20
31	1.70	—	3.00	—	5.20	—	2.20	1.80	—	2.00	—	—

ESTIMATED MONTHLY DISCHARGE  
Of Bear River, near Collinston, Utah, in 1897.  
(Draining area, 6,000 square miles.)

Month.	Discharge in Second-Feet.			Acre-Ft.	Total in See. ft. per Sq. mile.	Run-Off in Inches.
	Maximum.	Minimum.	Mean.			
January	1,690	1,100	1,321	81,409	0.22	0.25
February	1,185	1,100	1,108	63,733	0.18	0.19
March	2,570	1,100	1,310	80,519	0.22	0.25
April	3,425	2,570	2,080	177,070	0.18	0.54
May	5,650	3,150	3,890	231,050	0.05	0.75
June	7,415	4,530	6,101	380,886	1.07	1.49
July	4,200	1,480	2,231	132,873	0.37	0.43
August	1,095	1,100	1,301	80,085	0.23	0.20
September	1,375	1,185	1,247	71,202	0.21	0.23
October	1,375	1,275	1,308	80,125	0.22	0.25
November	1,695	1,375	1,520	90,410	0.25	0.28
December	1,635	1,375	1,550	95,074	0.26	0.30
The year	7,115	1,100	2,187	1,570,511	0.30	1.02

DISCHARGE MEASUREMENTS  
Of Bear River, near Collinston, Utah, in 1897.

Date.	Hydrographer.	Gage height,	Discharge,
		Feet.	Second-feet.
May 3	T. H. Humphreys and	5.95	8,311
May 28	W. R. Dougall	6.60	10,241
June 10	do	1.03	3,822
July 28	do	1.80	4,274
August 10	do	1.70	4,084

**DAILY GAGE HEIGHT**  
Of Bear River, near Collinston, Utah, for 1897.

Day.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	
1	-----	-----	2.00	2.60	6.00	6.30	3.00	1.70	1.60	1.90	2.20	1.85	
2	-----	2.00	-----	2.40	6.00	6.20	3.00	1.70	1.60	1.90	2.10	1.85	
3	-----	-----	2.00	2.30	5.90	6.10	3.00	1.70	1.60	1.90	2.10	1.85	
4	1.60	2.00	-----	2.60	6.00	6.00	2.95	1.70	1.65	1.85	2.10	1.85	
5	-----	-----	2.00	3.00	6.00	5.90	2.00	1.70	1.70	1.85	2.10	1.95	
6	1.80	2.00	2.00	3.40	6.20	5.80	2.85	1.70	1.80	1.90	2.00	1.95	
7	-----	-----	-----	3.50	6.40	5.60	2.80	1.70	1.80	2.00	1.90	1.95	
8	-----	-----	2.10	2.00	3.60	6.50	5.40	2.65	1.70	1.80	2.10	1.80	2.05
9	2.20	-----	-----	3.80	6.60	5.20	2.55	1.70	1.80	2.15	1.80	2.05	
10	-----	2.20	2.00	4.00	6.40	5.10	2.50	1.70	1.80	2.20	1.80	2.05	
11	2.10	-----	-----	4.60	6.20	5.00	2.45	1.70	1.80	2.25	1.80	2.05	
12	-----	2.00	-----	5.00	6.10	4.90	2.40	1.70	1.80	2.30	1.80	2.15	
13	-----	2.00	2.00	4.80	6.00	4.90	2.35	1.70	1.85	2.35	1.80	2.25	
14	2.20	-----	-----	2.00	4.80	6.00	4.80	2.30	1.70	1.85	2.40	1.90	2.20
15	-----	2.00	2.00	4.80	6.00	4.60	2.20	1.70	1.85	2.45	1.90	2.25	
16	2.00	-----	2.00	4.80	6.10	4.70	2.15	1.65	1.85	2.50	1.90	2.25	
17	-----	2.00	2.00	4.80	6.15	4.60	2.10	1.65	1.90	2.50	1.90	2.25	
18	2.00	-----	2.00	5.00	6.20	4.40	2.00	1.65	1.85	2.50	1.90	2.20	
19	-----	-----	2.00	5.20	6.30	4.20	2.00	1.60	1.85	2.45	1.90	2.20	
20	1.90	2.00	2.00	5.40	6.50	4.00	2.00	1.60	1.80	2.45	1.90	2.20	
21	-----	-----	2.00	5.60	6.60	3.80	2.00	1.60	1.80	2.50	1.90	2.30	
22	-----	2.00	2.00	5.70	6.70	3.60	2.00	1.60	1.80	2.50	1.90	2.10	
23	2.00	-----	2.00	5.90	6.80	3.50	2.00	1.60	1.80	2.50	1.90	2.45	
24	2.00	2.00	2.00	6.10	6.80	3.40	2.00	1.55	1.80	2.50	1.90	2.40	
25	-----	-----	2.00	5.80	6.80	3.80	2.00	1.55	1.80	2.50	1.90	2.65	
26	2.00	-----	2.10	5.70	6.80	3.20	2.00	1.55	1.80	2.45	1.90	2.60	
27	-----	2.00	2.20	5.70	6.70	3.10	1.00	1.55	1.80	2.45	1.90	2.30	
28	2.00	-----	2.20	5.80	6.70	3.05	1.85	1.50	1.85	2.40	1.85	2.20	
29	-----	-----	2.00	5.90	6.60	3.00	1.80	1.50	1.85	2.35	1.90	2.15	
30	2.00	-----	3.00	5.95	6.55	3.00	1.75	1.50	1.00	2.30	1.85	2.15	
31	-----	-----	2.80	6.40	-----	1.70	1.55	-----	2.20	-----	2.20	-----	

**ESTIMATED MONTHLY DISCHARGE**  
Of Bear River, near Collinston, Utah, for 1897.  
(Draining area, 6,000 square miles.)

Month.	Discharge in Second-Feet.			Total in Acre-Feet	Run-Off.	
	Maximum.	Minimum.	Mean.		Sec.-ft. per Sq. mile.	Depth in Inches.
January	1,070	1,050	1,420	87,800	0.24	0.28
February	1,070	1,440	1,400	81,418	0.24	0.25
March	2,090	1,440	1,582	97,274	0.26	0.30
April	8,090	1,700	5,822	946,492	0.07	1.08
May	10,500	8,520	9,500	588,104	1.60	1.83
June	9,410	2,600	5,037	335,424	0.94	1.04
July	2,630	1,430	1,807	111,109	0.30	0.35
August	1,430	900	1,082	66,630	0.18	0.21
September	1,330	1,050	1,224	72,833	0.20	0.22
October	2,010	1,280	1,769	108,772	0.20	0.33
November	1,070	1,230	1,351	80,390	0.23	0.20
December	2,235	1,280	1,026	99,079	0.27	0.31
The year	10,500	900	2,863	2,076,221	0.48	0.40

**DAILY GAGE HEIGHT**  
Of Bear River, at Collinston, for 1898.

Day.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
1 -----	2.00	2.00	2.45	2.35	4.40	4.75	2.55	1.30	1.10	1.30	1.70	1.00
2 -----	2.00	2.00	2.75	2.40	4.35	4.80	2.50	1.30	1.10	1.40	1.70	1.00
3 -----	2.00	2.00	2.75	2.40	4.30	4.80	2.40	1.25	1.10	1.50	1.70	1.00
4 -----	2.25	2.00	2.80	2.40	4.30	4.80	2.30	1.20	1.10	1.50	1.70	1.00
5 -----	1.90	2.00	2.80	2.55	4.20	4.80	2.25	1.20	1.20	1.60	1.70	1.40
6 -----	2.00	2.15	2.80	2.60	4.20	4.75	2.20	1.15	1.20	1.60	1.70	1.40
7 -----	2.00	2.15	2.65	2.60	4.20	4.70	2.15	1.10	1.10	1.60	1.70	1.40
8 -----	2.00	2.15	2.60	2.65	4.20	4.65	2.10	1.10	1.10	1.60	1.70	1.40
9 -----	2.00	2.10	2.60	2.75	4.10	4.55	2.00	1.10	1.10	1.60	1.70	1.40
10 -----	2.00	2.25	2.60	2.90	4.05	4.40	2.00	1.10	1.10	1.60	1.70	1.70
11 -----	2.30	2.15	2.40	3.30	4.00	4.10	2.00	1.10	1.10	1.60	1.70	1.20
12 -----	2.35	2.15	2.30	3.60	3.90	4.00	1.95	1.10	1.10	1.60	1.70	1.20
13 -----	2.45	1.95	2.30	3.85	3.00	3.90	1.85	1.10	1.10	1.60	1.70	1.20
14 -----	2.45	1.90	2.30	4.05	3.95	3.70	1.80	1.10	1.20	1.60	1.70	1.20
15 -----	2.35	1.90	2.30	4.15	3.90	3.55	1.70	1.10	1.20	1.60	1.70	1.20
16 -----	2.30	1.90	2.20	4.20	3.90	3.40	1.70	1.10	1.20	1.60	1.70	1.00
17 -----	2.30	2.20	2.30	4.20	3.95	3.30	1.80	1.10	1.20	1.60	1.70	1.00
18 -----	2.25	2.20	2.30	4.30	4.30	3.20	1.75	1.10	1.20	1.60	1.80	1.00
19 -----	2.05	2.10	2.30	4.30	4.30	3.20	1.70	1.10	1.20	1.60	1.80	1.00
20 -----	2.05	2.05	2.30	4.35	4.40	3.20	1.60	1.10	1.20	1.70	1.90	1.00
21 -----	2.35	2.00	2.30	4.40	4.50	3.20	1.60	1.10	1.20	1.70	1.90	1.00
22 -----	2.20	2.00	2.10	4.45	4.50	3.20	1.65	1.10	1.20	1.70	1.90	1.50
23 -----	2.30	2.00	2.10	4.55	4.50	3.15	1.50	1.10	1.20	1.70	1.70	1.40
24 -----	2.25	2.00	2.10	4.60	4.50	3.10	1.50	1.10	1.30	1.70	1.70	1.40
25 -----	2.35	2.00	2.15	4.60	3.60	3.10	1.45	1.10	1.30	1.70	1.70	1.40
26 -----	2.35	2.00	2.20	4.60	4.60	3.10	1.40	1.10	1.30	1.70	1.70	1.40
27 -----	2.35	2.20	2.10	4.60	4.60	3.10	1.30	1.10	1.30	1.70	1.60	1.40
28 -----	2.20	2.30	2.15	4.50	4.60	3.00	1.30	1.10	1.30	1.70	1.50	1.40
29 -----	2.15	-----	2.20	4.50	4.60	2.85	1.30	1.10	1.30	1.70	1.70	1.30
30 -----	2.05	-----	2.25	4.50	4.65	2.70	1.30	1.10	1.30	1.70	1.80	1.30
31 -----	2.05	-----	2.30	-----	4.70	-----	1.30	1.10	-----	1.70	-----	1.30

**ESTIMATED MONTHLY DISCHARGE**  
Of Bear River, near Collinston, Utah, for 1898.  
(Draining area, 6,000 square miles.)

Month.	Discharge in Second-Feet.			Total in Acre-Feet.	Run-Off	
	Maximum.	Minimum.	Mean.		Sec. ft. per Sq. mile.	Depth in Inches.
January	2,078	1,382	1,716	105,513	0.29	0.33
February	1,875	1,382	1,573	87,300	0.26	0.27
March	2,533	1,015	1,980	122,300	0.33	0.38
April	5,025	1,942	3,902	226,234	0.63	0.70
May	5,170	4,008	4,000	283,300	0.77	0.80
June	5,315	2,418	3,880	231,411	0.65	0.72
July	2,218	818	1,322	81,287	0.22	0.25
August	818	718	731	45,132	0.12	0.14
September	818	718	771	46,878	0.13	0.14
October	1,180	818	1,104	67,883	0.19	0.22
November	1,383	1,003	1,202	71,624	0.20	0.22
December	1,383	818	907	59,460	0.16	0.18
The year	5,315	718	1,073	1,427,370	0.33	4.41

DISCHARGE MEASUREMENTS  
Of Bear River, near Collinston, Utah, in 1899.

Date.	Hydrographer.	Gage height.	Discharge.
		Feet.	Second-feet.
May 5		4.00	4,438
June 23		5.60	6,053
July 14		4.61	4,819
November 29		2.40	2,083

DAILY GAGE HEIGHT  
Of Bear River, near Collinston, Utah, for 1899.

Day.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
1	1.30	1.00	2.00	2.00	4.40	4.00	5.60	3.00	2.00	1.80	2.40	2.40
2	1.50	1.90	2.00	2.00	4.30	4.00	5.40	3.00	2.00	1.90	2.30	2.40
3	1.50	1.90	1.90	2.00	4.20	4.00	5.50	2.90	1.90	1.90	2.40	2.40
4	1.50	1.40	1.90	2.00	4.20	4.00	5.50	2.90	1.90	1.90	2.30	2.30
5	1.70	1.40	1.90	2.00	4.20	4.00	5.40	3.00	2.00	1.90	2.30	2.20
6	1.70	1.40	1.90	2.00	4.10	5.10	5.40	3.00	1.90	1.90	2.30	2.20
7	1.70	1.40	1.90	2.70	4.10	5.30	5.40	2.90	1.80	1.90	2.30	2.10
8	1.70	1.40	1.90	2.90	4.20	5.30	4.30	2.90	1.80	1.90	2.30	2.00
9	1.70	1.40	2.10	2.90	4.10	5.30	5.20	2.90	1.90	1.90	2.30	2.00
10	1.70	1.00	2.10	3.00	4.20	5.20	5.10	2.90	2.00	1.90	2.40	2.00
11	1.70	1.60	2.10	3.00	4.10	5.20	5.00	2.90	2.00	2.00	2.40	2.20
12	1.70	1.00	2.00	3.00	4.70	5.30	4.00	2.80	1.90	2.20	2.60	2.00
13	1.70	1.80	2.00	3.80	4.80	5.10	4.80	2.80	1.90	2.20	2.50	1.90
14	1.70	1.80	2.00	4.10	4.00	5.50	4.70	2.80	1.90	2.30	2.50	2.10
15	1.70	1.80	2.10	4.50	5.10	5.00	4.00	2.80	1.80	2.40	2.60	2.20
16	1.80	1.70	2.10	4.50	5.10	5.50	4.50	2.70	1.90	2.30	2.50	2.20
17	1.80	1.70	2.20	4.50	5.20	5.60	4.40	2.90	1.90	2.50	2.00	2.20
18	1.80	1.70	2.40	4.40	5.20	5.60	4.30	2.40	1.90	2.50	2.00	2.20
19	1.80	1.70	2.40	4.20	5.00	5.40	4.20	2.40	1.90	2.50	2.00	2.20
20	1.80	1.70	2.40	4.10	4.80	5.50	4.10	2.40	2.00	2.50	2.00	2.10
21	1.80	1.80	2.40	4.10	4.80	5.50	4.00	2.30	1.90	2.50	2.50	2.00
22	1.80	1.80	2.40	4.10	4.80	5.60	3.80	2.20	1.90	2.40	2.50	1.90
23	1.80	1.80	2.40	4.20	4.80	5.60	3.70	2.20	1.90	2.40	2.50	2.00
24	1.80	1.80	2.50	4.30	4.70	5.60	3.60	2.30	1.90	2.50	2.40	2.00
25	1.80	1.80	2.50	4.40	4.70	5.60	3.60	2.20	1.90	2.50	2.40	1.90
26	1.80	1.90	2.50	4.50	4.80	5.60	3.50	2.20	1.80	2.50	2.40	2.00
27	1.80	1.90	2.50	4.50	4.80	5.60	3.40	2.10	1.90	2.50	2.40	2.10
28	1.90	2.00	2.60	4.50	4.90	5.60	3.40	2.10	1.70	2.40	2.40	2.10
29	1.90	-----	2.60	4.50	4.90	5.60	3.30	2.10	1.70	2.40	2.40	2.20
30	1.90	-----	2.60	4.40	4.90	5.60	3.20	2.10	1.70	2.40	2.40	2.20
31	1.90	-----	2.60	-----	4.90	-----	3.10	2.00	-----	2.40	-----	2.20

**ESTIMATED MONTHLY DISCHARGE  
Of Bear River, near Collinston, Utah, for 1890.  
(Drainage area, 6,000 square miles.)**

Month.	Discharge in Second-Feet.			Total in Acre-Feet.	Run-Off.	
	Maximum.	Minimum.	Mean.		Sec.-ft. per Sq. mile.	Depth in Inches.
January	1,485	870	1,200	70,872	0.22	0.25
February	1,600	950	1,266	70,310	0.21	0.22
March	2,840	1,485	1,876	115,280	0.31	0.30
April	4,900	2,340	3,839	228,430	0.61	0.71
May	5,070	4,320	5,120	315,370	0.85	0.98
June	6,040	5,495	6,247	371,222	1.04	1.16
July	6,010	2,070	4,873	290,020	0.81	0.93
August	2,840	1,000	2,300	141,076	0.38	0.44
September	1,600	1,150	1,448	80,102	0.24	0.27
October	2,215	1,370	1,887	110,027	0.31	0.36
November	2,340	1,063	2,132	120,803	0.30	0.40
December	2,000	1,485	1,753	107,788	0.20	0.33
The year	6,010	870	2,830	2,059,443	0.47	0.41

**DISCHARGE MEASUREMENTS  
Of Bear River, near Collinston, Utah, in 1890.**

Date.	Hydrographer.	Gage height, Feet.	Discharge,	
			Second-feet.	Second-feet.
February 17		1.00		1,607
March 5		2.50		
March 31		2.00		2,228
April 30		3.01		3,071
May 30		4.00		3,776
June 29		1.72		1,158
July 26		0.80		627
August 28		0.89		612
September 24		1.25		831
October 20		1.29		819
November 12		1.85		1,330
December 20		1.40		862

**DAILY GAGE HEIGHT**  
Of Bear River, near Collinston, Utah, for 1900.

Day.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
1-----	2.10	2.20	2.20	2.80	4.00	3.90	1.60	0.00	0.00	1.40	1.95	1.90
2-----	2.20	2.20	2.20	2.70	4.00	3.80	1.40	0.00	0.80	1.45	1.90	1.90
3-----	2.00	2.10	2.30	2.80	3.00	3.80	1.40	0.80	0.80	1.50	1.90	2.00
4-----	1.90	2.20	2.30	2.90	3.00	3.70	1.40	0.80	0.80	1.50	1.90	1.95
5-----	1.90	2.10	2.50	2.90	3.00	3.50	1.40	0.80	0.80	1.50	1.85	1.95
6-----	1.90	2.10	2.60	2.90	4.00	3.40	1.40	0.80	0.80	1.55	1.90	1.95
7-----	2.30	2.10	2.50	2.90	4.10	3.30	1.40	0.80	0.80	1.50	1.85	1.95
8-----	2.20	2.10	2.60	2.90	4.10	3.30	1.20	0.70	0.80	1.55	1.85	1.95
9-----	2.30	2.00	2.60	3.00	4.10	3.30	1.20	0.70	0.90	1.55	1.85	1.95
10-----	2.30	2.00	2.60	3.10	4.20	3.20	1.00	0.70	1.00	1.55	1.85	2.00
11-----	2.20	1.00	2.60	3.10	4.20	3.30	0.80	0.80	1.15	1.60	1.85	2.00
12-----	2.20	2.00	2.70	3.00	4.30	3.30	0.90	0.80	1.25	1.60	1.85	2.00
13-----	2.30	2.10	2.80	3.10	4.50	3.10	0.00	0.80	1.20	1.60	1.85	1.90
14-----	2.40	2.10	2.90	3.00	4.60	2.90	0.00	0.80	1.10	1.60	1.85	1.90
15-----	2.70	2.00	2.90	3.00	4.60	2.90	0.80	1.00	1.00	1.65	1.85	1.90
16-----	2.80	1.00	3.00	3.00	4.50	2.00	0.80	1.00	1.00	1.65	1.85	1.85
17-----	2.80	1.90	3.10	2.90	4.40	2.80	0.70	0.90	1.00	1.65	1.85	1.85
18-----	2.70	1.80	3.20	2.90	4.30	2.50	0.70	0.90	1.00	1.65	1.85	1.85
19-----	2.60	1.00	3.30	2.80	4.20	2.40	0.80	0.90	1.05	1.65	2.00	1.85
20-----	2.60	2.10	3.40	2.80	4.00	2.30	0.60	0.90	1.10	1.65	2.00	1.85
21-----	2.50	2.30	3.00	2.80	3.00	2.30	0.60	0.90	1.15	1.65	2.00	1.00
22-----	2.40	2.20	3.00	3.00	3.00	2.20	0.60	0.90	1.15	1.75	2.00	1.00
23-----	2.20	2.20	3.40	3.10	3.80	2.00	0.50	0.90	1.20	1.90	2.40	1.90
24-----	2.30	2.20	3.30	3.10	3.80	2.00	0.60	0.90	1.25	1.90	2.25	1.85
25-----	2.30	2.10	3.10	3.10	3.80	1.90	0.70	0.90	1.30	1.85	2.15	1.85
26-----	2.20	2.20	3.10	3.20	3.80	1.90	0.80	1.10	1.40	1.85	2.10	1.80
27-----	2.20	2.30	3.10	3.40	3.00	1.80	1.00	1.10	1.55	1.95	2.05	1.70
28-----	2.00	2.10	3.00	3.70	4.00	1.80	0.90	1.00	1.50	1.95	2.00	1.60
29-----	2.10	-----	3.10	3.00	4.00	1.70	0.90	0.90	1.00	1.90	1.95	1.50
30-----	2.10	-----	3.00	3.00	4.00	1.70	0.90	0.90	1.40	1.95	-----	1.40
31-----	2.10	-----	2.00	-----	4.00	-----	0.00	0.00	-----	1.95	-----	1.35

**ESTIMATED MONTHLY DISCHARGE**  
Of Bear River, near Collinston, Utah, for 1900.  
(Drainage area, 0,000 square miles.)

Month.	Discharge in Second-Feet.			Total in Acre-Feet.	Run-Off,	
	Maximum.	Minimum.	Mean.		See. ft. per Sq. mile.	Depth in Inches.
January -----	2,280	1,300	1,735	100,081	0.20	0.33
February -----	1,850	1,275	1,510	80,027	0.20	0.27
March -----	3,250	1,650	2,400	147,570	0.40	0.46
April -----	3,010	2,105	2,592	154,235	0.43	0.48
May -----	4,030	3,510	3,902	239,025	0.63	0.75
June -----	3,010	1,190	2,208	130,741	0.38	0.42
July -----	1,105	415	677	41,027	0.11	0.13
August -----	750	523	621	38,184	0.10	0.12
September -----	1,300	580	703	45,402	0.13	0.15
October -----	1,405	950	1,180	72,553	0.20	0.23
November -----	2,055	1,317	1,432	85,210	0.21	0.27
December -----	1,450	916	1,316	80,018	0.22	0.25
The year -----	4,650	415	1,703	1,235,075	0.28	3.86

**DISCHARGE MEASUREMENTS**  
Of Bear River, near Collinston, Utah, in 1901.

Date.	Hydrographer.	Gage height,	Discharge.
		Feet.	Second-feet.
February 18	G.L. Swendsen	1.80	1,415
May 27	do	4.22	4,274
July 31	do	0.52	264
August 30	do	0.05	377
September 14	do	0.90	392
October 21	do	1.50	973

**DAILY GAGE HEIGHT**  
Of Bear River, near Collinston, Utah, for 1901.

Day.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
1	1.35	1.70	3.30	2.25	3.85	3.00	1.45	0.50	0.05	1.30	1.00	1.75
2	1.35	1.60	3.30	2.25	3.90	3.75	1.40	0.50	0.05	1.30	1.55	1.75
3	1.60	1.60	2.00	2.25	4.10	3.70	1.40	0.50	0.05	1.35	1.55	1.85
4	1.00	1.75	2.70	2.30	4.20	3.60	1.30	0.50	0.05	1.40	1.55	1.85
5	1.75	1.80	2.50	2.30	4.50	3.50	1.20	0.55	0.05	1.40	1.55	1.95
6	1.85	1.80	2.50	2.25	4.80	3.40	1.20	0.60	0.05	1.45	1.50	1.90
7	2.10	1.80	2.50	2.30	4.70	3.30	1.15	0.65	0.05	1.50	1.50	1.90
8	2.00	1.75	2.60	2.30	4.70	3.25	1.15	0.70	0.05	1.50	1.55	1.80
9	1.05	1.70	2.50	2.30	4.70	3.10	1.15	0.70	0.00	1.50	1.00	1.80
10	1.85	1.00	2.00	2.30	4.70	2.90	1.10	0.70	0.00	1.45	1.05	1.70
11	1.70	1.00	2.80	2.30	4.70	2.75	1.10	0.70	0.00	1.45	1.05	1.05
12	1.70	1.00	2.00	2.30	4.75	2.65	1.05	0.70	0.00	1.45	1.70	1.00
13	1.80	1.00	3.00	2.40	4.75	2.50	1.05	0.70	0.00	1.45	1.70	1.55
14	1.00	1.00	2.00	2.60	4.75	2.40	1.00	0.70	0.00	1.45	1.05	1.50
15	1.00	1.05	2.80	2.80	4.75	2.30	1.00	0.75	0.05	1.50	1.05	1.50
16	1.80	1.80	2.70	3.00	4.75	2.20	1.00	0.80	0.05	1.50	1.65	1.55
17	1.80	1.80	2.60	3.00	4.75	2.10	1.00	0.80	1.15	1.50	1.70	1.05
18	1.75	1.80	2.50	3.00	4.75	2.50	0.95	0.85	1.15	1.50	1.70	1.70
19	1.03	1.80	2.40	3.00	4.80	2.00	0.95	0.90	1.05	1.50	1.70	1.70
20	1.05	1.80	2.30	3.00	4.75	2.00	0.90	0.95	1.05	1.50	1.70	1.00
21	1.70	2.10	2.30	3.20	4.80	2.00	0.90	1.05	1.05	1.50	1.70	1.00
22	1.70	3.10	2.30	3.30	4.75	1.95	0.85	1.01	1.05	1.50	1.70	1.60
23	1.75	3.30	2.30	3.40	4.60	1.90	0.85	1.01	1.10	1.50	1.70	1.75
24	1.80	3.00	2.30	3.40	4.50	1.80	0.80	1.01	1.20	1.50	1.70	1.80
25	1.80	2.00	2.30	3.00	4.40	1.70	0.75	0.95	1.25	1.50	1.70	1.80
26	1.80	2.00	2.30	3.70	3.00	1.60	0.75	0.95	1.30	1.50	1.70	1.75
27	1.80	2.03	2.30	3.83	4.00	1.60	0.65	0.95	1.30	1.50	1.70	1.70
28	1.80	3.20	2.30	3.80	4.00	1.55	0.65	0.95	1.35	1.55	1.70	1.60
29	1.80	-----	2.30	3.80	4.10	1.60	0.60	0.95	1.35	1.55	1.75	1.60
30	1.75	-----	2.30	3.80	4.10	1.60	0.60	0.95	1.35	1.55	1.75	1.60
31	1.80	-----	2.25	-----	3.05	-----	0.60	0.95	1.30	1.55	1.75	1.60

**ESTIMATED MONTHLY DISCHARGE  
Of Bear River, near Collinston, Utah, for 1901.  
(Drainage area, 6,000 square miles.)**

Month.	Discharge in Second-Feet.			Total in Acre-feet.	Run-Off.	
	Maximum.	Minimum.	Mean.		Sec.-ft. per Sq. mile.	Depth in Inches.
January -----	1,550	915	1,230	76,183	0.21	0.24
February -----	2,880	1,105	1,555	86,354	0.26	0.27
March -----	2,880	1,700	2,032	124,943	0.34	0.39
April -----	3,575	1,700	2,300	142,750	0.40	0.45
May -----	4,050	3,575	4,469	274,788	0.74	0.85
June -----	3,610	1,025	2,020	120,734	0.34	0.38
July -----	987	415	696	42,180	0.11	0.13
August -----	717	415	574	35,294	0.10	0.12
September -----	915	635	724	43,081	0.12	0.13
October -----	1,105	880	1,006	61,857	0.17	0.20
November -----	1,232	1,025	1,144	68,073	0.10	0.21
December -----	1,405	1,025	1,197	73,000	0.20	0.23
The year -----	4,050	415	1,588	1,140,837	0.27	3.60

During 1902 the following discharge measurements were made by G. L. Swendsen:

- July 16: Gage height, 0.40 foot; discharge, 324 second-feet.
- July 20: Gage height, 0.30 foot; discharge, 205 second-feet.
- August 13: Gage height, 0.40 foot; discharge, 68 second-feet.
- August 20: Gage height, 0.15 foot; discharge, 60 second-feet.
- December 30: Gage height, 0.51 foot; discharge, 402 second-feet

**DAILY GAGE HEIGHT**  
In feet, of Bear River, near Collinston, Utah.

Day.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
1	1.70	1.65	1.85	1.65	2.00	3.50	0.40	-0.10	-0.65	0.80	0.80	0.35
2	1.75	1.60	1.75	1.65	2.00	3.60	.30	-10	-55	.80	.80	.35
3	1.80	1.60	1.75	1.70	2.00	3.60	.30	-10	-20	.80	.80	.40
4	1.80	1.65	1.75	1.75	2.00	3.45	.40	-10	-10	.80	.80	.40
5	1.80	1.60	1.65	1.80	2.80	3.30	.40	-15	-15	.80	.80	.45
6	1.80	1.55	1.65	1.90	2.70	3.15	.35	-20	-20	.80	.80	.50
7	1.80	1.55	1.65	1.90	2.00	3.00	.35	-25	-30	.80	.80	.50
8	1.85	1.60	1.65	2.40	2.60	3.00	.35	-30	-20	.80	.80	.55
9	1.85	1.75	1.70	3.00	2.70	3.00	.40	-35	-30	.40	.80	.60
10	1.80	1.80	1.80	2.90	2.80	3.10	.40	-35	-20	1.00	.00	.60
11	1.80	1.85	1.80	2.75	2.00	3.10	.40	-40	-20	.30	1.10	.60
12	1.80	1.85	1.75	2.75	3.00	3.10	.40	-40	-10	.00	1.20	.80
13	1.75	1.90	1.75	2.75	3.10	3.10	.35	-40	-10	.00	1.30	.70
14	1.70	1.90	1.70	2.75	3.15	3.00	.35	-40	-10	.00	1.40	.60
15	1.70	1.70	1.70	2.75	3.15	3.00	.40	-40	-10	.00	1.50	.50
16	1.70	1.70	1.65	2.70	3.20	2.90	.45	-45	-10	.00	.50	.40
17	1.70	1.70	1.65	2.65	3.25	2.80	.45	-45	.00	.00	.50	.30
18	1.60	1.80	1.70	2.65	3.30	2.60	.40	-45	.10	.00	.50	.30
19	1.65	1.80	1.70	2.70	3.30	2.50	.30	-45	.10	.00	.45	.35
20	1.65	1.70	1.80	2.80	3.30	2.35	.30	-45	.20	.00	.40	.40
21	1.65	1.70	1.75	3.00	3.30	2.20	.25	-45	.30	.00	.30	.40
22	1.65	1.65	1.80	3.20	3.20	2.10	.20	-45	.30	.80	.50	.40
23	1.60	1.65	1.80	3.20	3.20	2.00	.15	-45	.30	.80	.50	.40
24	1.60	1.65	1.75	3.10	3.10	1.90	.10	-50	.30	.00	.50	.40
25	1.40	1.65	1.70	3.30	3.10	1.80	.20	-20	.30	.00	.40	.45
26	1.40	1.70	1.70	3.30	3.10	1.70	.20	-50	.30	.00	.40	.45
27	1.40	2.00	1.70	3.20	3.20	1.60	.10	-50	.40	.80	.30	.40
28	1.40	1.95	1.70	3.10	3.25	1.40	.10	-55	.50	.80	.30	.40
29	1.45	—	1.70	3.00	3.30	.50	.10	-55	.60	.80	.35	.40
30	1.50	—	1.70	2.90	3.35	.50	.00	-60	.70	.80	.35	.40
31	1.65	—	1.65	—	3.45	—	.10	-60	.80	.80	—	.40

**RATING TABLE**  
For Bear River, near Collinston, Utah, for 1902.

Gage height, Feet.	Discharge, Sec. feet.						
-.1	280	0.7	370	2.0	1,170	3.0	3,340
.0	280	.8	410	2.3	1,070	3.8	3,000
.1	280	.9	460	2.4	1,880	4.0	3,800
.2	285	1.0	520	2.6	2,100	4.2	4,140
.3	290	1.2	690	2.8	2,330	4.4	4,620
.4	300	1.4	870	3.0	2,570	4.6	4,700
.5	310	1.6	1,070	3.2	2,820	4.8	5,000
.6	310	1.8	1,270	3.4	3,080	5.0	5,300

**ESTIMATED MONTHLY DISCHARGE  
Of Bear River, near Collinston, Utah, for 1901.  
(Drainage area, 6,000 square miles.)**

Month.	Discharge in Second-Feet.			Total In Acre-feet.	Run-Off.	
	Maximum.	Minimum.	Mean.		Sec.-ft. per Sq. mile.	Depth in Inches.
January -----	1,550	915	1,230	76,183	0.21	0.24
February -----	2,880	1,105	1,555	86,354	0.26	0.27
March -----	2,880	1,700	2,032	124,943	0.34	0.39
April -----	3,575	1,700	2,390	142,750	0.40	0.45
May -----	4,950	3,575	4,460	274,788	0.74	0.85
June -----	3,040	1,025	2,020	120,734	0.34	0.38
July -----	987	415	680	42,180	0.11	0.13
August -----	717	415	574	35,204	0.10	0.12
September -----	915	635	724	43,081	0.12	0.13
October -----	1,105	880	1,006	61,857	0.17	0.20
November -----	1,232	1,025	1,144	68,073	0.19	0.21
December -----	1,403	1,025	1,197	73,000	0.20	0.23
The year ..	4,950	415	1,588	1,140,837	0.27	3.60

During 1902 the following discharge measurements were made by G. L. Swendsen:

- July 16: Gage height, 0.40 foot; discharge, 324 second-feet.
- July 20: Gage height, 0.30 foot; discharge, 203 second-feet.
- August 13: Gage height, 0.40 foot; discharge, 68 second-feet.
- August 26: Gage height, 0.45 foot; discharge, 60 second-feet.
- December 30: Gage height, 0.31 foot; discharge, 402 second-feet

**DAILY GAGE HEIGHT**  
In feet, of Bear River, near Collinston, Utah.

Day.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
1	1.70	1.65	1.85	1.65	2.90	3.50	0.40	-0.10	-0.65	0.80	0.80	0.35
2	1.75	1.60	1.75	1.65	2.90	3.60	.30	.10	.55	.80	.80	.35
3	1.80	1.60	1.75	1.70	2.90	3.60	.30	.10	.20	.80	.80	.40
4	1.80	1.65	1.75	1.75	2.90	3.45	.40	.10	.10	.80	.80	.40
5	1.80	1.60	1.65	1.80	2.80	3.30	.40	.15	.15	.80	.80	.45
6	1.80	1.55	1.65	1.90	2.70	3.15	.35	.20	.20	.80	.80	.50
7	1.80	1.55	1.65	1.90	2.60	3.00	.35	.25	.30	.80	.80	.50
8	1.85	1.60	1.65	2.40	2.60	3.00	.35	.30	.20	.80	.80	.55
9	1.85	1.75	1.70	3.00	2.70	3.00	.40	.35	.30	.40	.80	.60
10	1.80	1.80	1.80	2.90	2.80	3.10	.40	.35	.20	1.00	.90	.60
11	1.80	1.85	1.80	2.75	2.90	3.10	.40	.40	.20	.30	1.10	.60
12	1.80	1.85	1.75	2.75	3.00	3.10	.40	.40	.10	.90	1.20	.80
13	1.75	1.90	1.75	2.75	3.10	3.10	.35	.40	.10	.90	1.30	.70
14	1.70	1.90	1.70	2.75	3.15	3.00	.35	.40	.10	.90	1.40	.60
15	1.70	1.70	1.70	2.75	3.15	3.00	.40	.40	.10	.90	1.50	.50
16	1.70	1.70	1.65	2.70	3.20	2.90	.45	.45	.10	.90	.50	.40
17	1.70	1.70	1.65	2.65	3.25	2.80	.45	.45	.00	.90	.50	.30
18	1.60	1.80	1.70	2.65	3.30	2.60	.40	.45	.10	.90	.50	.30
19	1.65	1.80	1.70	2.70	3.30	2.50	.30	.45	.10	.90	.45	.35
20	1.65	1.70	1.80	2.80	3.30	2.35	.30	.45	.20	.90	.40	.40
21	1.65	1.70	1.75	3.00	3.30	2.20	.25	.45	.30	.90	.50	.40
22	1.65	1.65	1.80	3.20	3.20	2.10	.20	.45	.30	.80	.50	.40
23	1.60	1.65	1.80	3.20	3.20	2.00	.15	.45	.30	.80	.50	.40
24	1.60	1.65	1.75	3.10	3.10	1.90	.10	.50	.30	.90	.50	.40
25	1.40	1.65	1.70	3.30	3.10	1.80	.20	.20	.30	.90	.40	.45
26	1.40	1.70	1.70	3.30	3.10	1.70	.20	.50	.30	.90	.40	.45
27	1.40	2.00	1.70	3.20	3.20	1.60	.10	.50	.40	.80	.30	.40
28	1.40	1.95	1.70	3.10	3.25	1.40	.10	.55	.50	.80	.30	.40
29	1.45	-----	1.70	3.00	3.30	.50	.10	.55	.00	.80	.35	.40
30	1.50	-----	1.70	2.90	3.35	.50	.00	.60	.70	.80	.35	.40
31	1.65	-----	1.65	3.45	-----	.10	.60	-----	.80	-----	.40	-----

**RATING TABLE**  
For Bear River, near Collinston, Utah, for 1902.

Gage height, Feet.	Discharge, Sec. feet.						
-.1	280	0.7	370	2.0	1,470	3.0	3,340
.0	280	.8	410	2.2	1,070	3.8	3,600
.1	280	.9	460	2.4	1,880	4.0	3,800
.2	285	1.0	520	2.0	2,100	4.2	4,140
.3	290	1.2	690	2.8	2,330	4.4	4,420
.4	300	1.4	870	3.0	2,570	4.6	4,700
.5	310	1.6	1,070	3.2	2,820	4.8	5,000
.6	310	1.8	1,270	3.4	3,080	5.0	5,300

**ESTIMATED MONTHLY DISCHARGE  
of Bear River, near Collinston, Utah, in 1902.  
(Drainage area, 6,000 square miles.)**

Month.	Discharge in Second-Feet.			Total in Acre-Feet.	Run-Off.	
	Maximum.	Minimum.	Mean.		Sec.-ft. per Sq. mile.	Depth in Inches.
January	1,320	870	1,130	70,034	.10	.22
February	1,470	1,020	1,191	60,145	.20	.22
March	1,320	1,120	1,101	73,232	.20	.23
April	2,050	1,120	2,176	120,481	.36	.40
May	3,145	2,100	2,050	163,311	.44	.51
June	3,340	310	2,138	127,220	.36	.40
July	305	280	292	17,054	.05	.06
August	280	280	280	17,217	.05	.06
September	370	280	280	17,107	.05	.06
October	520	200	427	20,255	.07	.08
November	520	200	420	24,892	.07	.08
December	410	200	312	10,184	.05	.06
The year	3,340	280	1,043	762,222	.17	2.38

The observations at this station during 1903 have been made under the direction of G. L. Swendsen, district hydrographer.

**DISCHARGE MEASUREMENTS  
of Bear River, near Collinston, Utah, in 1903.**

Date.	Hydrographer.	Gage height.		Discharge.
		Feet.	Second-feet.	
January 5	G. L. Swendsen	0.50	340	
April 6	do.	2.70	2,932	
May 30	do.	3.20	2,803	
July 1	W. W. McLaughlin	1.71	1,300	
August 18	do.	-4.20	31	
October 24	do.	1.20	930	
November 10	C. Turner	1.05	722	

**MEAN DAILY GAGE HEIGHT**  
In feet, of Bear River, near Collinston, Utah, for 1903.

Day.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
1	.30	1.70	1.30	2.40	3.10	2.80	1.85	—.60	—.85	1.00	1.20	—
2	.40	1.60	1.30	2.70	3.00	2.95	1.75	—.55	—.85	1.10	1.20	1.50
3	.50	1.50	1.35	2.20	3.00	3.10	1.65	—.60	—.80	1.20	1.25	—
4	.50	1.50	1.35	2.80	2.90	3.25	1.50	—.65	—.80	1.25	1.25	1.10
5	.40	1.40	1.30	2.70	2.00	3.30	1.40	—.70	—.80	1.25	1.25	1.30
6	.40	1.40	1.30	2.60	2.80	3.45	1.30	—.75	—.75	1.30	1.30	1.10
7	.40	1.40	1.30	2.60	2.80	3.45	1.20	—.80	—.70	1.30	1.30	—
8	.45	1.30	1.30	2.70	2.90	3.50	1.10	—.90	—.60	1.30	1.30	1.10
9	.40	1.30	1.35	2.80	2.90	3.45	.90	—1.00	—.50	1.30	1.35	—
10	.40	1.30	1.40	2.80	2.90	3.45	.80	—1.05	—.40	1.30	1.40	1.20
11	.40	1.40	1.40	3.00	2.00	3.55	.70	—1.10	—.30	1.30	1.45	1.30
12	.40	1.40	1.50	3.20	2.80	3.55	.65	—1.10	—.20	1.30	1.50	1.30
13	.35	1.30	1.70	3.00	2.70	3.45	.60	—1.15	—.10	1.25	1.55	—
14	.30	1.40	2.20	3.00	2.65	3.30	.50	—1.15	.00	1.25	1.60	1.25
15	.30	1.30	3.70	2.80	2.60	3.20	.40	—1.15	.10	1.25	1.70	—
16	.25	1.35	4.20	2.90	2.00	3.15	.30	—1.15	.20	1.25	1.70	1.30
17	.25	1.35	4.20	2.90	2.60	3.00	.20	—1.15	.30	1.25	1.65	—
18	.30	1.40	3.60	2.80	2.60	2.90	.10	—1.20	.40	1.25	1.60	1.30
19	.30	1.40	3.00	2.80	2.60	2.80	.00	—1.20	.50	1.25	1.60	1.30
20	.40	1.35	2.40	2.70	2.60	2.70	—.10	—1.15	.55	1.25	1.40	1.30
21	.40	1.35	2.10	2.70	2.60	2.00	—.15	—1.15	.60	1.25	1.40	1.30
22	.70	1.30	2.20	2.60	2.75	2.50	—.20	—1.15	.65	1.25	1.45	1.25
23	2.00	1.30	2.15	2.70	2.90	2.45	—.25	—1.15	.65	1.25	1.45	1.25
24	2.20	1.35	2.20	2.80	3.00	2.45	—.30	—1.10	.75	1.25	1.60	1.20
25	3.00	1.35	2.30	2.00	3.00	2.40	—.30	—1.05	.80	1.20	—	1.20
26	2.80	1.35	2.35	3.00	2.90	2.35	—.30	—1.00	.80	1.20	1.60	1.20
27	2.80	1.40	2.25	3.10	2.80	2.25	—.30	—1.00	.80	1.20	—	1.20
28	2.70	1.40	2.30	3.20	2.80	2.20	—.30	—.95	.85	1.20	1.50	1.30
29	1.80	—	2.30	3.30	2.80	2.10	—.35	—.90	.95	1.20	1.50	1.20
30	1.80	—	2.30	3.20	2.75	2.00	—.40	—.90	.95	1.20	1.50	1.10
31	1.80	—	2.40	—	2.80	—	—.50	—.90	—	1.20	—	1.10

RATING TABLE  
For Bear River, near Collinston, Utah, for 1903.

Gage height.	Discharge	Gage height.	Discharge	Gage height.	Discharge	Gage height.	Discharge
Feet.	Sec.-feet.	Feet.	Sec.-feet.	Feet.	Sec.-feet.	Feet.	Sec.-feet.
—1.2	31	—0.1	110	1.0	700	2.2	1,850
—1.1	34	—.0	135	1.1	785	2.1	2,050
—1.0	37	.1	107	1.2	870	2.0	2,250
—.9	41	.2	200	1.3	960	2.8	2,450
—.8	45	.3	250	1.4	1,055	3.0	2,650
—.7	49	.4	298	1.5	1,150	3.2	2,850
—.6	54	.5	351	1.6	1,250	3.4	3,050
—.5	60	.6	410	1.7	1,350	3.6	3,250
—.4	67	.7	475	1.8	1,450	3.8	3,450
—.3	70	.8	515	1.9	1,550	4.0	3,650
—.2	90	.9	620	2.0	1,650	4.2	3,850

Table well defined.

**ESTIMATED MONTHLY DISCHARGE  
Of Bear River, near Collinston, Utah, for 1903.  
(Drainage area, 6,000 square miles.)**

Month.	Discharge in Second-Feet.			Total in Acre-Feet.	Run-Off.	
	Maximum.	Minimum.	Mean.		Sec.-ft. per Sq. mile.	Depth in Inches.
January	2,650	228	781	48,022	.013	.015
February	1,350	960	1,044	57,081	.17	.18
March	3,850	960	1,782	100,571	.30	.35
April	2,950	1,850	2,480	147,570	.41	.46
May	3,350	2,250	2,474	152,120	.41	.47
June	3,200	1,050	2,570	152,026	.43	.48
July	1,500	60	448	27,510	.07	.09
August	57	31	38	2,387	.01	.01
September	600	43	261	15,709	.04	.05
October	960	700	902	55,462	.15	.17
November*	1,350	870	1,115	60,347	.19	.21
December†	1,150	785	924	56,815	.15	.17
The year	3,850	31	1,295	892,406	.20	2.79

\*November 23, 25 and 27 Interpolated.

†December 1, 3, 7, 9, 13, 15 and 17 Interpolated.

**DISCHARGE MEASUREMENTS  
Of Bear River, near Collinston, Utah, in 1904.**

Date.	Hydrographer.	Area of section.	Mean velocity.	Gage height.	Discharge.
		Square ft.	Ft. per sec.	Feet.	Second-ft.
January 29	C. Tanner	210	2.02	1.37	802
March 5	W. P. Hardesty	314	5.00	2.70	2,300
May 10	C. Tanner	801	7.72	5.43	6,331
June 8	W. Swendsen	700	7.51	5.33	5,202
July 7	W. D. Beers	418	4.30	2.57	1,001
August 14	C. Tanner	150	1.80	.80	250
December 10	do	310	2.57	1.00	981

**MEAN DAILY GAGE HEIGHT**  
**In feet, of Bear River, near Collinston, Utah, for 1904.**

Day.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
1-----	1.40	1.40	2.70	3.70	4.90	5.50	3.10	0.00	1.50	1.60	1.80	1.90
2-----	1.40	1.40	2.70	3.60	5.00	5.50	3.00	.90	1.40	1.60	1.80	1.90
3-----	1.50	1.40	2.70	3.50	5.00	5.50	2.90	.90	1.30	1.50	1.80	1.90
4-----	1.50	1.50	2.70	3.50	5.00	5.60	2.70	.90	1.30	1.50	1.90	1.95
5-----	1.50	1.50	2.70	3.40	5.30	5.00	2.60	.90	1.20	1.50	1.00	1.60
6-----	1.50	1.50	2.80	3.40	5.40	5.50	2.60	.90	1.20	1.50	1.00	1.60
7-----	1.50	1.50	2.90	3.50	5.30	5.50	2.50	.80	1.10	1.50	1.90	1.60
8-----	1.50	1.50	3.20	3.50	5.50	5.40	2.50	.80	1.10	1.50	1.90	1.80
9-----	1.50	1.50	3.90	3.40	5.30	5.30	2.50	.80	1.00	1.60	1.80	1.90
10-----	1.40	1.50	4.10	3.50	5.30	5.20	2.40	.80	1.10	1.60	1.80	1.00
11-----	1.30	1.40	3.90	3.60	5.30	5.10	2.30	.80	1.10	1.70	1.80	1.00
12-----	1.40	1.40	3.40	3.90	5.40	5.10	2.20	.80	1.00	1.70	1.90	1.00
13-----	1.40	1.50	3.20	4.20	5.50	5.00	2.10	.80	1.00	1.70	1.90	1.00
14-----	1.40	1.60	3.00	4.30	5.40	4.90	2.00	.80	1.10	1.80	1.90	1.00
15-----	1.40	1.60	3.00	4.50	5.50	4.80	1.90	.80	1.20	1.70	1.80	1.00
16-----	1.40	1.60	3.00	4.80	5.60	4.70	1.80	.80	1.20	1.80	1.80	1.00
17-----	1.50	1.80	3.10	5.00	5.60	4.50	1.70	.80	1.30	1.80	1.90	1.00
18-----	1.40	1.90	3.10	5.10	5.60	4.40	1.70	.90	1.20	1.80	1.90	1.00
19-----	1.40	1.80	3.50	5.00	5.50	4.30	1.70	1.10	1.30	1.90	1.00	1.00
20-----	1.40	1.70	3.90	5.10	5.50	4.20	1.60	1.20	1.30	1.90	1.00	1.00
21-----	1.40	1.50	4.10	5.20	5.50	4.10	1.50	1.10	1.30	1.00	1.90	2.00
22-----	1.40	1.80	4.00	5.40	5.50	4.00	1.40	1.00	1.30	1.00	1.80	2.00
23-----	1.40	2.00	3.70	5.30	5.60	3.90	1.30	1.00	1.30	1.00	1.80	2.00
24-----	1.40	4.00	3.70	5.20	5.60	3.80	1.20	1.10	1.40	1.00	1.80	2.00
25-----	1.40	4.20	3.70	5.20	5.70	3.80	1.10	1.20	1.40	1.90	1.80	2.00
26-----	1.30	4.20	3.50	5.10	5.70	3.60	1.20	1.30	1.50	1.00	1.80	2.00
27-----	1.30	4.10	3.30	5.00	5.70	3.50	1.10	1.40	1.50	1.00	1.70	2.00
28-----	1.30	3.40	3.40	4.90	5.70	3.40	1.00	1.40	1.50	1.80	1.80	1.00
29-----	1.40	2.00	3.00	5.00	5.60	3.20	.90	1.00	1.00	1.00	1.00	1.00
30-----	1.40	-----	3.80	5.00	5.50	4.20	.90	1.00	1.00	1.80	1.00	1.00
31-----	1.40	-----	3.80	-----	5.50	-----	.90	1.00	1.50	-----	1.80	1.00

## RATING TABLE

For Bear River, near Collinston, Utah, from January 1 to December 31, 1904.

Gage height,	Discharge,	Gage height,	Discharge,	Gage height,	Discharge,	Gage height,	Discharge,
Feet.	Sec. feet.	Feet.	Sec. feet.	Feet.	Sec. feet.	Feet.	Sec. feet.
0.80	270	2.10	1,330	3.40	3,250	4.70	5,200
.90	300	2.20	1,470	3.50	3,400	4.80	5,350
1.00	310	2.30	1,010	3.60	3,550	4.90	5,500
1.10	300	2.40	1,750	3.70	3,700	5.00	5,650
1.20	450	2.50	1,000	3.80	3,850	5.10	5,800
1.30	520	2.60	2,050	3.90	4,000	5.20	5,950
1.40	600	2.70	2,200	4.00	4,150	5.30	6,100
1.50	680	2.80	2,350	4.10	4,300	5.40	6,250
1.60	760	2.90	2,500	4.20	4,450	5.50	6,400
1.70	860	3.00	2,650	4.30	4,600	5.60	6,550
1.80	970	3.10	2,800	4.40	4,750	5.70	6,700
1.90	1,080	3.20	2,950	4.50	4,900	-----	-----
2.00	1,200	3.30	3,100	4.60	5,050	-----	-----

The above table is applicable only for open-channel conditions. It is based upon 6 discharge measurements made during 1904. It is not well defined, owing to poor conditions at station.

**ESTIMATED MONTHLY DISCHARGE  
Of Bear River, near Collinston, Utah, for 1904.  
(Drainage area, 6,000 square miles.)**

Month.	Discharge in Second-Feet.			Total in Acre-Feet.	Run-Off.	
	Maximum.	Minimum.	Mean.		Sec.-ft. per Sq. mile.	Depth in Inches.
January	680	520	610	37,510	.102	0.118
February	4,450	600	1,443	83,000	.240	.259
March	4,300	2,200	3,187	196,000	.531	.612
April	6,250	3,250	4,740	282,000	.700	.881
May	6,700	5,500	6,303	387,600	1.05	1.21
June	6,550	2,050	5,055	300,800	.842	.939
July	2,800	300	1,207	74,220	.201	.232
August	700	270	376	23,120	.063	.073
September	700	340	514	30,580	.080	.096
October	1,080	680	908	55,830	.151	.174
November	1,080	860	1,021	60,750	.170	.190
December	1,200	760	1,007	65,610	.178	.205
The year	6,700	270	2,203	1,597,000	.367	4.99

**DISCHARGE MEASUREMENTS  
Of Bear River, near Collinston, Utah, in 1905.**

Date.	Hydrographer.	Width,	Area of section,	Mean velocity,	Gage height,	Dis-
						Second- feet.
February 10	C. Tanner	270	480	2.40	1.75	1,105
March 29	W. G. Swendsen	275	711	2.73	2.50	1,043
March 29	do	275	711	2.78	2.50	1,070
May 17	do	275	684	2.70	2.45	1,010
September 7*	A. B. Larson	10	10	1.01	.37	31
October 31	W. G. Swendsen	268	400	2.32	1.00	1,030

\*300 feet below regular station.

**DAILY GAGE HEIGHT**  
In feet, of Bear River, near Collinston, Utah, for 1905.

Day.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
1	1.7	1.9	1.95	2.35	2.6	2.25	-0.1	-0.5	-0.5	1.2	1.55	1.4
2	1.8	1.95	1.95	2.3	2.8	2.2	-1	-5	-5	1.2	1.55	1.45
3	1.75	2.0	2.0	2.2	3.1	2.1	-15	-5	-5	1.1	1.55	1.45
4	1.75	2.0	2.0	2.15	3.15	2.1	-	-55	-5	1.1	1.55	1.45
5	1.8	2.0	2.0	2.1	3.0	2.05	-2	-55	-5	1.1	1.55	1.5
6	1.0	2.0	1.95	2.1	2.0	1.95	-2	-55	-5	1.1	1.55	1.45
7	1.8	1.9	1.9	2.1	2.75	1.8	-25	-55	-	1.1	1.6	1.4
8	1.6	1.85	1.95	2.15	2.05	1.6	-25	-55	-4	1.15	1.6	1.3
9	1.75	1.8	1.95	2.2	2.6	1.4	-3	-55	-4	1.15	1.6	1.2
10	1.9	1.75	1.9	2.2	2.6	1.35	-3	-55	-4	1.2	1.6	1.1
11	1.7	1.7	1.9	2.3	2.6	1.3	-4	-55	-4	1.2	1.6	1.1
12	1.7	1.5	1.95	2.3	2.0	1.3	-4	-55	-35	1.2	1.6	1.0
13	1.8	1.3	2.0	2.25	2.0	1.35	-45	-55	-3	1.2	1.6	1.05
14	1.6	1.4	2.1	2.2	2.5	1.4	-45	-5	-3	1.25	1.55	1.05
15	1.6	1.6	2.1	2.3	2.4	1.4	-45	-5	-3	1.3	1.55	1.1
16	1.05	1.7	2.1	2.3	2.4	1.35	-5	-5	-3	1.3	1.55	1.1
17	1.7	1.7	2.1	2.3	2.4	1.3	-5	-5	-3	1.3	1.55	1.15
18	1.75	1.7	2.15	2.3	2.5	1.4	-5	-55	-3	1.35	1.55	1.15
19	1.75	1.7	2.25	2.4	2.8	1.4	-5	-55	-4	1.4	1.5	1.2
20	1.75	1.65	2.5	2.6	2.05	1.45	-5	-55	-4	1.45	1.5	1.25
21	1.7	1.05	2.4	2.6	3.0	1.45	-5	-55	-4	1.45	1.5	1.25
22	1.75	1.7	2.35	2.55	3.0	1.4	-5	-55	-4	1.4	1.45	1.2
23	1.8	1.7	2.35	2.55	2.0	1.35	-45	-55	-4	1.45	1.45	1.2
24	1.8	1.8	2.4	2.5	2.85	1.1	-45	-5	-35	1.5	1.45	1.25
25	1.85	1.9	2.4	2.45	2.8	.6	-45	-5	-3	1.5	1.45	-
26	1.85	1.9	2.4	2.5	-	.6	-45	-45	-3	1.5	1.45	1.3
27	1.85	1.9	2.5	2.55	-	.55	-45	-45	-35	1.5	1.45	1.35
28	1.85	1.95	2.5	2.6	2.5	.55	-5	-5	.7	1.5	1.45	1.4
29	1.0	-	2.5	2.6	2.55	.55	-5	-5	.03	1.5	1.5	1.45
30	1.05	-	2.4	2.6	2.55	.5	-5	-5	.7	1.5	1.5	1.4
31	2.0	-	2.4	-	2.4	-	-5	-5	-	1.0	-	1.35

**STATION RATING TABLE**  
For Bear River, near Collinston, Utah, from January 1 to December 31, 1905.

Gage height,	Discharge,						
Feet.	Sec. feet.						
.55	10	.40	200	1.40	808	2.40	1,850
.50	15	.50	310	1.50	950	2.50	1,900
.40	20	.60	350	1.60	1,035	2.60	2,075
.30	47	.70	400	1.70	1,125	2.70	2,100
.20	68	.80	400	1.80	1,220	2.80	2,310
.10	92	.90	518	1.00	1,320	2.00	2,435
.00	120	1.00	590	2.00	1,420	3.00	2,500
.10	152	1.10	600	2.10	1,525	3.10	2,600
.20	187	1.20	710	2.20	1,630	3.20	2,830
.30	225	1.30	700	2.30	1,740	-	-

Note.—The above table is applicable only for open-channel conditions. It is based on discharge measurements made during 1904-05. It is well defined between gage heights 1.3 feet and 2.6 feet.

**ESTIMATED MONTHLY DISCHARGE  
Of Bear River, near Collinston, Utah, for 1905.  
(Drainage area, 6,000 square miles.)**

Month.	Discharge in Second-Feet.			Total in Acre-Feet.	Run-Off.	
	Maximum	Minimum	Mean		Sec.-ft. per Sq. mile.	Depth in Inches.
January -----	1,420	1,035	1,199	73,720	.200	.231
February -----	1,420	790	1,199	66,590	.200	.208
March -----	1,060	1,320	1,005	98,000	.268	.309
April -----	2,075	1,525	1,800	107,100	.300	.335
May -----	2,760	1,850	2,201	135,300	.367	.423
June -----	1,685	310	895	53,260	.149	.166
July -----	120	15	36.4	2,238	.0001	.0070
August -----	22	10	13.0	779	.0022	.0025
September -----	406	15	158	9,402	.026	.029
October -----	1,035	646	806	49,560	.134	.154
November -----	1,035	909	976	58,080	.163	.182
December -----	950	580	767	47,160	.128	.148
The year -----	2,760	10	971	701,900	.160	.217

Note.—Discharge interpolated on days when gage was not read. Discharge applied for open channel during winter months.

MONTHLY DISCHARGE  
In thousands of acre feet, of Bear River, near Collinston, Utah.  
(Drainage area, 6,000 square miles.)

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Run-Off		
													Sec. Ft. per Sq. Mi.	Depth in Inches	
1889	72.25	35.50	104.00	294.70	457.35	47.60	89.00	25.65	20.29	44.77	50.46	85.29	0.49	6.68	
1890	61.50	72.59	104.71	162.35	280.90	213.90	96.06	57.63	81.05	95.00	82.55	76.50	2,139.36		
1891	73.92	60.52	125.25	142.62	257.94	336.77	186.75	73.49	58.67	75.95	73.00	74.75	1,338.31	4.19	
1892	38.38	80.81	112.14	237.15	314.82	292.46	156.15	71.94	68.45	93.77	73.50	75.10	1,722.41	4.76	
1893	78.71	74.42	149.72	318.65	417.26	378.27	170.94	76.86	90.75	101.46	87.18	104.58	1,729.76	0.40	
1894	90.00	90.23	124.82	136.80	260.15	136.32	50.00	49.00	51.05	73.29	73.80	82.77	2,057.46	0.49	
1895	63.73	80.55	177.68	231.65	380.89	122.87	80.90	74.20	80.48	90.45	85.67	90.45	1,333.45	4.16	
1896	81.41	97.27	246.45	388.19	335.45	111.11	66.23	72.82	106.77	80.31	99.98	1,570.51	0.36	4.92	
1897	87.35	105.71	122.20	226.35	285.40	231.40	81.29	45.13	45.88	67.88	71.52	59.46	2,076.22	0.48	6.16
1898	79.57	70.21	115.20	228.44	315.37	371.22	290.65	141.98	86.16	116.03	126.86	107.79	1,927.38	0.33	4.44
1899	106.56	86.03	147.57	154.24	253.05	136.74	41.63	38.18	45.40	72.56	85.21	80.92	2,059.44	0.47	6.41
1900	76.18	86.35	124.94	182.75	274.79	120.73	42.18	35.25	42.08	61.86	68.07	73.60	1,295.08	0.28	3.86
1901	66.02	57.38	73.25	129.48	163.21	127.22	17.95	17.22	17.29	26.26	24.09	17.18	1,149.84	0.27	3.90
1902	48.02	57.51	109.27	147.37	152.42	152.05	27.35	23.34	15.71	55.46	60.25	56.82	732.22	0.17	2.28
1903	66.30	56.00	106.00	282.00	387.60	300.50	74.22	22.12	30.58	55.83	60.75	65.61	1,507.00	0.37	4.99
1904	72.72	66.50	98.60	107.10	152.50	33.26	2.24	0.78	9.40	49.56	58.08	47.16	701.90	0.16	2.17
Mean	73.25	74.42	125.22	205.65	298.51	220.81	152.28	73.82	51.71	73.13	68.71	76.88	1,472.61	0.34	4.61

**PRECIPITATION**  
At Randolph, Utah, in drainage basin of Bear River.

Year.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.	Ann.
1904						0.51	0.67	1.01	0.19		0.03	0.23	
1905	0.70	0.30	1.40	2.22	1.07	0.78	1.24	1.07	1.82	0.47	0.21	0.00	10.78
Mean						0.65	0.95	1.04	0.76		0.12	0.12	

**PRECIPITATION**  
At Woodruff, Utah, in drainage basin of Bear River.

Year.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.	Ann.
1897	0.20	1.70	2.00	0.20	0.10	0.00	0.20	0.40					
1898						0.93	0.17	0.44	0.05	1.03	0.07		
1899			2.02	0.12	1.14	0.24	0.98	0.34	0.00	1.24		1.70	
1900		1.20	0.00	1.20	0.20	0.00	0.00	0.26					
1901									0.00	1.00	0.19	1.23	
1902		0.50				0.18	0.22	0.29	0.19	0.30		0.20	
1903	1.50	0.05	0.90	0.72	1.08	0.22	0.78	0.00	1.15		0.05	0.00	
1904	0.30	1.05	2.05	0.58	2.53	0.47	0.34	1.01		1.60	0.00		
1905	0.40	0.45	0.08	1.56	2.35	0.40	0.85	*0.11					
1906					1.60								
Mean	0.60	0.02	1.42	0.73	1.29	0.30	0.44	0.47	0.28	1.05	0.30	0.70	8.59

**PRECIPITATION**  
At Logan, Utah, in drainage basin of Bear River.

Year.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.	Ann.
1891					2.48	1.10	0.13	0.13	1.44	0.20	0.57		
1892					0.00	3.00	1.30	0.31	0.00		0.32	0.50	1.70
1893	0.65	2.43	2.61	2.10	1.83	0.14	0.01	0.11	1.01	0.59	0.02	1.44	14.51
1894	1.80	1.45	1.72	1.41	0.73	0.74	0.28	0.59	2.00	0.07	0.00	2.13	14.27
1895	2.18	0.48	1.71	1.05	2.27	0.51	0.11	0.18	1.00	0.04	1.70		
1896	1.31	0.35	1.73	2.11	3.17	0.40	1.40	1.40	0.01	0.08	1.07	0.57	18.00
1897	0.00	2.33	2.84	1.74	0.50	0.60	0.71	0.25	1.28	2.02	2.44	1.22	10.16
1898	0.88	0.62	1.31	1.58	5.02	0.85	0.15	0.11	0.18	1.34	0.73	0.48	17.45
1899	1.20	0.70	1.70	0.80	1.37	0.60	0.00	0.70	0.02	2.58	1.32	0.80	13.18
1900	1.50	0.78	0.58	4.07	1.42	0.10	0.01	0.71	0.04	2.38	2.00	0.23	12.57
1901	1.13	1.65	1.40	1.35	2.43	0.41	0.07	1.60	1.03	1.83	0.35	1.32	15.04
1902	0.28	0.03	2.63	2.02	2.10	0.74	0.52	0.27	0.00	0.51	1.80	1.02	14.47
1903	2.02	0.33	0.52	2.01	2.80	0.25	0.33	0.12	0.00	1.01	2.20	0.68	13.33
1904	1.23	2.20	3.13	1.01	0.85	0.47	0.02	0.82	0.17	1.57	0.00	0.00	13.07
1905	0.40	1.32	2.22	1.00	2.13	0.03	0.20	0.73	2.07	0.37	0.04	0.30	12.52
1906	2.28	2.02	*1.70	2.47	5.05	1.48	0.71	4.55	1.02	0.00	1.07	1.00	26.40
Mean	1.21	1.21	1.70	1.83	2.34	0.00	0.11	0.77	1.12	1.08	1.16	1.00	14.07

\*Missing; mean value inserted.

**LIST OF MISCELLANEOUS DISCHARGE MEASUREMENTS,**  
 Made in Bear River Drainage Basin, in 1896.

Date.	Stream.	Gage height. Feet.	Discharge.
		Second-ft.	
June 19	South Fork Little Bear River	1.60	163
July 11	do	0.50	71
August 6	do	0.30	43
September 15	do	0.15	30
June 19	East Canyon Creek		56
August 6	do		35
September 15	do		23
June 18	Blacksmith Fork	1.20	302
June 20	do	1.00	261
July 10	do	0.03	230
August 5	do	.86	210
September 15	do	.84	181

## WEBER RIVER BASIN.

### *Description of Basin.*

Weber River rises on the northern slope of the Jinta Mountains and flows in a tortuous course northwestward into Great Salt Lake.

The upper portion of the basin is very rough. The highest peaks, reaching an elevation of about 13,000 feet, are masses of sandstone and quartzite, entirely barren of vegetation, and covered with snow for almost the entire year. Farther down the prevailing formation is limestone, overlain with sandstone and conglomerate. A thin layer of soil covers the basin in patches and supports small groves of fir and aspen. There are no extensive forests, meadows, or marshes. The greater part of the precipitation is in the form of snow, the melting of which is the chief source of the spring flood and early summer flow. A large part of the normal flow is derived from springs, which are well distributed over the area. Numerous tributaries, all short and confined to steep, narrow canyons, enter all along the course.

Between Oakley and Croyden the river traverses a very narrow valley comprising irrigated farms. The principal formation over this area is of conglomerate and sandstone, with but little loose and porous overlying soil except near the stream bed, where the deposit of boulders and soil ranges from 10 to 20 feet in depth. The chief tributaries in this stretch of the river are Beaver Creek, which enters from the south about 6 miles below Oakley and drains a rough country about 71 square miles in extent; Chalk Creek, from the east, which drains a rough, dry country, about 248 square miles in area, and enters the Weber 15 miles above Croyden; and Lost Creek, which comes in from the east at a point about one-half mile above the Devil's Slide gaging station, and has a watershed of 205 square miles. Gaging stations are maintained near the mouth of Chalk and Lost creeks.

Between Croyden and Plain City the stream flows in a well-defined channel through a comparatively narrow, steep canyon, with occasional stretches of narrow valley containing

irrigated farming lands. The rock is a porous and badly fissured sandstone and conglomerate, with but little overlying soil. Near the mouth of the canyon the material is very rough but compact limestone. East Creek, which enters near Morgan, discharges but little water into the river, as its flow is completely controlled by a storage reservoir about 5 miles above its mouth, the water being used for irrigation in the Morgan Valley, through which the Weber flows. After leaving the Wasatch range the Weber enters the Great Salt Lake Valley, through which it flows in a well-defined channel with no overflow.

Ogden River joins the Weber about 8 miles above Plain City. It drains a rough and rugged limestone area, 363 square miles in extent, in the western slopes of the Wasatch Range. The main stream and its numerous short tributaries are confined to steep, narrow canyons. The entire normal flow of the stream is diverted for irrigation near the foot of the canyon about 3 miles above the mouth of the river, after being used for the development of power by the Utah Light and Railway Company. The flood and winter flow, therefore, is all that reaches the Weber, except for a small amount of seepage from the irrigated district. The city of Ogden also derives its water supply from Ogden River.

There are at present no storage reservoirs on the Weber, but a number of possibilities exist.

#### WEBER RIVER, NEAR OAKLEY, UTAH.

This station was established October 22, 1904. It is located approximately 200 feet south of the main canyon road, about 3 miles above Oakley, Utah, and is above all diversions to the Kamas prairie region. The object of the station is to determine the amount of water available for diversion through the low Kamas Pass into Provo River, which is a part of the reclamation scheme in the development of the Weber River project.

Except for a slight depression, which probably carries a small amount of water during extreme floods, there is but one channel at all stages. The right bank for about 200 feet from the main channel is a low, wooded bottom, and is liable to overflow at extreme high water; the left bank is high and wooded. The bed of the stream, which is composed of large boulders, gravel, and soil, is very rough, but thus far has

been found to be permanent. Ice forms during December and January to a sufficient extent to render open-channel curves useless. The flow, which ranges from about 75 to 1,000 second-feet, reaches a maximum during May and a minimum during the winter months. The velocity ranges from 4 to 7 feet per second.

Discharge measurements are made by means of a cable and car. The cable is marked at 4-foot intervals with paint, the anchor bolt, which supports the cable on the left bank being the initial point. A guy line stretched across the stream about 40 feet above the gaging section is found useful at all stages.

The gage, which is read daily by John Franson, a farmer, is of the inclined type and consists of three sections of 2-foot by one-half inch iron, fastened to the solid limestone ledge by means of bolts set in cement. It is graduated with chisel marks and paint to read vertically. The bench mark is a United States Geological survey standard metallic plug, set in the ledge 0.5 foot from the anchor bolt used as initial point for soundings; elevation above zero of gage, 14.79 feet.

A description of this station and gage height and discharge data are contained in Water-Supply Paper No. 133 of the United States Geological Survey, pp 253-254.

**DISCHARGE MEASUREMENTS**  
Of Weber River, near Oakley, Utah, in 1901.

Date.	Hydrographer.	Area of section.	Mean velocity.	Gage height.	Discharge.
		Square ft.	Ft. per sec.	Feet.	Second-fl.
October 22.....	W. D. Beers.....	57	1.50	4.27	80
December 13*.....	do.....	103	1.00	5.55	107

\*Measurement made through ice.

**MEAN DAILY GAGE HEIGHT**  
In feet, of Weber River, near Oakley, Utah, for 1901

Day.	Oct.	Nov.	Dec.	Day.	Oct.	Nov.	Dec.	Day.	Oct.	Nov.	Dec.
1		4.20	*4.15	12		4.20	*	22		4.15	*
2		4.20	*4.15	13		4.20	*5.55	23		4.25	4.15
3		4.20	*4.35	14		4.35	*	24		4.25	4.15
4		*	*5.45	15		4.35	*5.20	25		4.25	4.15
5		4.20	*5.45	16		4.15	*	26		4.25	4.15
6		4.20	*5.40	17		4.15	*	27		4.25	*4.20
7		4.20	*5.55	18		4.15	*	28		4.25	*4.20
8		4.20	*5.55	19		4.15	*	29		4.25	*
9		4.20	*5.05	20		4.15	+4.02	30		4.25	*4.25
10		4.20	*5.70	21		4.15	*	31		4.25	*
11		4.20	*5.55								

\*Ice.

†Ice 11 inches thick.

**DISCHARGE MEASUREMENTS**  
Of Weber River, near Oakley, Utah, in 1905.

Date.	Hydrographer,	Width,	Area of section,	Mean velocity,	Gage height,	Dis.	
						charge,	
					Square	Ft. per	Second-
					feet,	feet,	feet,
March 9	W. G. Swendsen	41	55	1.13	4.10	03	
March 9	do	41	55	1.17	4.10	03	
May 1	do	47	91	2.03	4.02	243	
June 10	do	51	137	5.75	0.00	787	
June 27	do	40	110	3.34	5.30	380	
August 8	C. Tanner	42	57	1.26	4.20	72	
August 18	W. D. Beers	42	62	1.10	4.18	08	

**DAILY GAGE HEIGHT**  
In feet, of Weber River, near Oakley, Utah, for 1905.

Day.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
1		4.05	4.1	4.15	4.05	6.0	5.0	4.3	4.05	4.35	4.15	4.05
2				4.15	5.05	6.15	4.95	4.3	4.05	4.3	4.15	4.0
3				4.2	5.05	6.3	4.9	4.3	4.05	4.3	4.15	4.0
4		5.4		4.25	4.9	6.4		4.3	4.05	4.25	4.15	4.0
5				4.3	4.8	6.45	4.8	4.3	4.05	4.25	4.15	
6				4.35	4.7	6.5	4.75	4.3	4.05	4.2	4.15	4.1
7				4.35	4.75	6.6	4.75	4.3	4.1	4.2	4.15	4.2
8		4.05		4.4	4.8	7.0	4.7	4.2	4.1	4.2	4.1	
9				4.1	4.4	4.8	6.8	4.7	4.2	4.1	4.2	4.8
10				4.1	4.35	4.75	6.3	4.7	4.2	4.1	4.2	
11	4.7			4.1	4.3	4.7	6.25	4.65	4.2	4.1	4.2	
12				4.15	4.3	4.7	6.3	4.65	4.2	4.1	4.2	
13				4.15	4.3	4.7	6.3	4.6	4.2	4.1	4.2	
14				4.15	4.3	4.7	6.3	4.6	4.2	4.1	4.2	
15		5.1		4.15	4.35	4.7	6.25	4.65	4.15	4.1	4.2	
16				4.15	4.35	4.8	6.0		4.15	4.1	4.2	
17				4.15	4.35	5.0	5.9	4.65	4.15	4.1	4.2	
18	4.5			4.2	4.4	5.2	5.7	4.55	4.15	4.1	4.2	
19				4.2	4.45	5.3	5.7	4.55	4.15	4.1	4.2	
20				4.2	4.45	5.35	5.8	4.5	4.15	4.1	4.2	
21				4.2	4.45	5.4	5.75	4.5	4.15	4.1	4.2	4.75
22		4.3		4.2	4.45	5.65	5.75	4.5	4.1	4.1	4.2	
23				4.15	4.55	5.7	5.7	4.5	4.1	4.1	4.2	
24				4.15	4.6	5.7	5.8	4.45	4.1	4.1	4.15	4.1
25		4.05		4.15	4.05	5.7	5.55	4.4	4.1	4.1	4.15	
26				4.15	4.75	5.75	5.4	4.35	4.1	4.1	4.1	
27				4.15	4.8	5.75	5.35	4.35	4.1	4.1	4.1	5.25
28				4.15	4.85	5.75	5.35	4.3	4.1		4.1	
29				4.15	4.9	5.8	5.2	4.3	4.1	4.2	4.15	
30				4.15	4.9	5.85	5.1	4.3	4.1	4.35	4.15	4.1
31				4.15		5.85		4.3	4.1		4.15	

Note.—Ice conditions January, February, and December, noted on observer's records as follows:

January 4, ice at banks; river open in the center.

January 11, ice 1 foot thick at banks; 0.5 foot thick in the center.

January 18, ice broken up.

January 25, river clear.

February 8, ice at banks; river open in the center.

February 1, river clear.

February 15, ice 0.5 foot thick at banks; 0.25 foot thick in the center.

February 22, ice broken up.

March 1, river clear.

December 2, ice 0.3 foot thick at banks.

The following thicknesses of ice were recorded during December:

	Feet.		Feet.
December 0	0.7	December 23	0.7
December 13	.5	December 27	.8
December 16	.6	December 30	1.15
December 20	.6		

Observer reports no anchor ice during December.

Gage readings during December are to the surface of the water in a hole cut in the ice.

**STATION RATING TABLE**  
For Weber River, near Oakley, Utah, from October 23, 1904, to December 31, 1905.

Gage height.	Discharge.	Gage height.	Discharge.	Gage height.	Discharge.	Gage height.	Discharge.
Feet.	Sec.-feet.	Feet.	Sec.-feet.	Feet.	Sec.-feet.	Feet.	Sec.-feet.
4.00	48	4.80	209	5.60	512	6.40	1,066
4.10	58	4.90	241	5.70	597	6.50	1,145
4.20	73	5.00	275	5.80	655	6.60	1,227
4.30	90	5.10	312	5.90	716	6.70	1,312
4.40	109	5.20	352	6.00	780	6.80	1,400
4.50	130	5.30	395	6.10	847	6.90	1,490
4.60	151	5.40	441	6.20	917	7.00	1,580
4.70	180	5.50	490	6.30	990		

Note.—The above table is applicable only for open-channel conditions. It is based on eight discharge measurements made during 1904-5. It is well defined between gage heights 4 feet and 6 feet.

**ESTIMATED MONTHLY DISCHARGE**  
Of Weber River, near Oakley, Utah, for 1904 and 1905.  
(Drainage area, 170 square miles.)

Month.	Discharge in Second-Feet.			Total in Acre-Feet.	Run-Off.	
	Maximum	Minimum	Mean		Sec.-ft. per Sq. mile.	Depth in Inches.
<b>1904.</b>						
October 23-31	82	82	82.0	1,161		
November 1-26	100	66	72.1	3,718		
<b>1905</b>						
March	73	58	61.3	3,054	0.38	0.41
April	241	66	124	7,370	0.71	0.83
May	686	180	372	22,870	2.19	2.52
June	1,580	312	808	48,080	4.76	5.30
July	275	90	150	9,592	0.92	1.00
August	90	58	70.4	4,320	0.41	0.47
September	100	52	58.0	3,505	0.35	0.30
October	100	58	73.0	4,488	0.43	0.50
November	66	58	50.9	3,564	0.35	0.39
The period (1905)	1,580	62	108	107,800	1.17	1.00

Note.—Ice conditions November 27, 1904, to February 28, 1905, and December 2-31, 1905. Discharge interpolated on days when gage was not read.

**DISCHARGE MEASUREMENTS**  
Of Weber River, at Oakley, Utah, in 1906.

Date.	Hydrographer.	Width.	Area of section.	Mean velocity.	Gage height.	Discharge.
		Feet.	Square feet.	Ft. per second.	Feet.	Second-feet.
January 9	W. G. Swendsen	48.5	38.6	1.86	5.10	71.9
May 31	H. S. Kleinschmidt	51.0	146.5	5.24	5.05	769.0
August 11	T. Grieve, Jr.	46.0	74.0	1.72	4.50	127.0

\*Ice.

**DAILY GAGE HEIGHT**  
Of Weber River, at Oakley, Utah, for 1906.

Day.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
1				4.20	4.85	5.00	5.05	4.60	4.70	4.25	4.20	4.00
2				4.20	4.90	0.10	5.00	4.65	4.70	4.25	4.20	4.50
3	5.25	4.50	4.05	4.20	5.00	0.10	5.00	4.65	4.05	4.25	4.20	4.45
4				4.20	5.20	0.20	5.80	4.60	4.00	4.25	4.25	4.20
5				4.15	5.40	0.40	5.85	4.60	4.00	4.25	4.20	4.40
6	4.80			4.20	5.60	0.50	5.85	4.65	4.50	4.25	4.20	4.40
7				4.20	5.60	0.20	5.70	4.50	4.50	4.25	4.20	4.40
8				4.25	5.70	0.00	5.70	4.50	4.45	4.25	4.20	4.45
9				4.30	5.90	0.05	5.00	4.50	4.45	4.25	4.20	4.15
10	5.10	5.10	4.10	4.40	6.00	0.20	5.55	4.50	4.40	4.25	4.15	4.00
11				4.50	6.20	0.80	5.55	4.45	4.40	4.25	4.15	4.00
12				4.45	6.40	7.30	5.40	4.45	4.40	4.25	4.15	4.15
13				4.45	6.10	8.00	5.45	4.70	4.40	4.25	4.15	4.15
14				4.50	6.00		5.35	4.55	4.40	4.20	4.15	4.15
15				4.55	5.90	7.20	5.30	4.40	4.40	4.20	4.15	4.05
16	4.70			4.00	5.70	7.70	5.30	4.40	4.40	4.20	4.15	4.15
17		4.10	4.00	4.70	5.60	0.00	5.25	4.40	4.40	4.20	4.15	4.15
18				4.80	5.60	0.70	5.25	4.40	4.40	4.20	4.10	4.10
19				4.85	5.60	0.70	5.20	4.40	4.40	4.20	4.10	4.10
20				4.00	0.20	0.40	5.20	4.00	4.40	4.15	4.15	4.15
21				5.00	0.40	0.50	5.15	4.00	4.40	4.15	4.20	4.20
22				5.20	0.50	0.30	5.1	5.10	4.40	4.15	4.25	4.25
23				5.55	0.60	0.20	5.0	4.90	4.35	4.15	4.25	4.25
24		4.05	4.25	5.50	0.00	0.20	4.05	4.70	4.35	4.15	4.30	4.30
25				5.20	0.20	5.80	4.80	4.60	4.35	4.20	4.30	4.30
26				5.00	0.10	5.00	4.80	4.60	4.35	4.20	4.30	4.30
27		4.05		4.70	0.20	5.00	4.75	4.00	4.25	4.20	4.40	4.40
28				4.70	0.70	0.05	4.70	4.55	4.25	4.20	4.30	4.30
29				4.80	0.30	5.00	4.05	4.65	4.25	4.20	4.50	4.50
30				4.80	0.20	5.85	4.00	4.40	4.25	4.20	4.00	4.00
31				4.20	---	0.00	----	4.00	4.40	4.20	----	----

Ice conditions until March 24-31. Observer reports no ice on March 31.  
Gage heights are to water surface.

**ESTIMATED MONTHLY DISCHARGE  
Of Weber River, near Oakley, Utah, for 1906.  
(Drainage area, 170 square miles.)**

Month.	Discharge in Second-Feet.			Total in Acre-Feet.	Run-Off.	
	Maximum	Minimum	Mean.		Sec.-ft. per Sq. mile.	Depth in Inches.
January -----	375	145	220	13,535	1.30	1.50
February -----	310	45	136	7,555	0.80	0.83
March -----	80	45	60	3,600	0.35	0.40
April -----	515	65	183	10,890	1.08	1.20
May -----	1,225	225	700	40,730	4.47	5.15
June -----	2,210	715	1,131	67,300	6.65	7.42
July -----	750	155	421	25,885	2.48	2.86
August -----	310	110	153	9,405	0.90	1.01
September -----	180	85	117	6,060	0.60	0.77
October -----	80	65	80	4,020	0.47	0.54
November -----	155	60	75	4,400	0.44	0.49
December -----			60	3,090	0.35	0.40
The year -----	2,210	45	200	205,010	1.07	22.60

### Chalk Creek, at Coalville, Utah.

Chalk Creek joins Weber River at Coalville. Its basin is rough and barren, the rocks being chiefly sandstone and conglomerate, with but little overlying soil. Small springs scattered over the entire area furnish the principal part of the normal flow, while the spring and flood run-off is derived from melting snow. The stream has few tributaries. There are no swamps, meadows, or forests in the area. Small tracts of irrigated lands lie near the mouth of the canyon. The water supply of the town of Coalville comes mostly from this stream.

The gaging station was established October 23, 1904. It is located at a foot bridge on the main road leading north, one-eighth mile from the county court-house at Coalville.

The channel is slightly curved and somewhat irregular for about 150 feet above the station. Below it is wider, and is straight for about 100 feet. Both banks are sufficiently high to prevent overflow. The bed of the stream is composed of small cobbles and is somewhat rough, but apparently permanent. There is but one channel at all stages, broken during high water by the supporting piles of the bridge. The velocity is moderate and the stream shallow.

Discharge measurements are made from the foot bridge. The initial point for soundings is the zero mark near the left end of the bridge.

The gage, which is read daily by Miss Eva Rees, consists of a vertical staff attached to a pile near the right bank of the stream. The bench mark is a cut on the south corner of the stone abutment of the highway bridge; elevation, 0.00 feet above gage datum.

A description of this station and gage height and discharge data are contained in Water-Supply Paper No. 133 of the United States Geological Survey, pp 254-255.

**DISCHARGE MEASUREMENTS**  
On Chalk Creek, at Coalville, Utah, in 1904.

Date.	Hydrographer.	Area of section.	Mean velocity.	Gage height.	Discharge.
October 24	W. D. Beers	Square ft.	Ft. per sec.	Feet.	Second-ft.
December 12	do	26	0.76	1.50	20
		24	.79	1.50	20

**MEAN DAILY GAGE HEIGHT**  
In feet, of Chalk Creek, at Coalville, Utah, for 1904.

Day.	Oct.	Nov.	Dec.	Day.	Oct.	Nov.	Dec.	Day.	Oct.	Nov.	Dec.
1	1.50	1.60	12		1.25	1.50	22		1.55		
2	1.50	1.60	13		1.47	1.50	23		1.50	1.45	1.50
3	1.50	1.40	14		1.40		24		1.50	1.42	1.50
4	1.50	1.30	15		1.40		25		1.50	1.55	
5	1.50	1.30	10		1.49		26		1.50	1.55	
6	1.50	1.47	17		1.42	1.50	27		1.50	1.60	
7	1.40	1.55	18		1.52		28		1.50	1.55	
8	1.43	1.40	19		1.51		29		1.50	1.35	
9	1.47	1.40	20		1.40	1.50	30		1.47	1.44	1.50
10	1.43	1.50	21		1.53	1.50	31		1.47		1.50
11	1.35	1.55									

**DISCHARGE MEASUREMENTS**  
Of Chalk Creek, at Coalville, Utah, in 1905.

Date.	Hydrographer.	Width.	Area of section.	Mean velocity.	Gage height.	Discharge.
March 8	W. G. Swendson	Feet.	Square feet.	Ft. per second.	Feet.	Second-feet.
May 1	do	34	21	0.77	1.42	16
June 16	do	44	64	2.45	2.26	154
June 27	do	32	42	1.58	1.80	67
		38	28	.80	1.60	22

**DAILY GAGE HEIGHT**  
In feet, of Chalk Creek, at Coalville, Utah, for 1905.

Day.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
1	-----	1.5	1.5	1.5	2.19	2.38	1.25	1.2	1.13	1.37	1.47	1.5
2	-----	1.5	1.55	1.63	2.18	2.38	1.25	1.2	1.13	1.32	1.46	1.5
3	1.5	-----	1.55	1.57	2.08	2.32	1.24	1.19	1.13	1.31	1.52	1.5
4	-----	1.5	1.52	1.57	2.03	2.4	1.23	1.18	-----	1.42	1.6	1.46
5	-----	-----	1.52	1.6	1.97	2.32	1.22	1.18	1.13	1.44	1.53	1.45
6	-----	1.5	-----	1.6	1.96	2.19	1.2	1.18	1.13	1.43	1.51	-----
7	1.4	-----	1.52	1.62	1.98	2.2	1.2	1.19	1.15	1.45	1.53	-----
8	-----	-----	1.42	-----	2.03	2.27	1.18	1.19	1.2	-----	1.52	1.4
9	-----	-----	1.5	1.08	1.98	2.35	1.2	1.17	1.2	1.37	1.55	-----
10	-----	1.5	1.5	1.8	1.93	2.25	1.23	1.2	-----	1.37	1.43	-----
11	1.4	1.6	1.54	1.66	1.88	2.15	1.21	1.2	1.2	1.47	1.44	-----
12	-----	-----	1.54	1.65	1.86	2.02	1.17	1.19	1.2	1.47	1.39	1.35
13	-----	-----	1.54	1.69	1.87	2.03	1.2	1.17	1.18	1.45	1.43	-----
14	1.4	1.5	1.56	1.71	1.87	2.02	1.28	1.18	1.19	-----	1.53	-----
15	-----	-----	1.54	1.67	1.91	1.99	-----	1.2	1.2	-----	1.43	1.37
16	-----	-----	1.56	1.73	2.02	1.95	1.21	1.17	1.2	1.45	1.37	1.4
17	-----	1.5	1.55	1.76	2.17	1.92	1.33	1.17	-----	-----	1.55	-----
18	1.51	-----	1.58	1.73	2.4	1.91	1.35	1.16	1.2	1.55	1.6	-----
19	1.52	-----	1.62	1.82	2.4	1.81	1.4	1.15	1.2	1.57	1.35	1.38
20	-----	1.5	1.6	1.83	2.6	1.8	1.57	1.15	1.2	1.55	1.5	-----
21	1.52	-----	1.57	1.81	2.55	1.68	1.54	1.15	1.2	1.55	1.5	1.38
22	-----	-----	1.5	1.8	2.47	1.67	1.52	1.15	1.2	1.57	1.5	-----
23	-----	1.5	1.62	1.8	2.47	1.67	1.53	1.15	1.2	1.50	1.43	-----
24	-----	1.5	1.6	1.82	2.4	1.67	-----	1.15	1.2	1.53	1.43	-----
25	-----	1.5	1.6	1.62	1.9	2.3	1.62	1.5	1.15	1.2	-----	1.36
26	-----	1.5	1.56	1.98	2.3	1.55	-----	1.15	1.22	1.55	1.33	-----
27	-----	1.5	1.55	2.05	2.3	1.55	1.2	1.15	1.2	1.55	-----	-----
28	1.5	-----	1.5	2.1	2.37	1.46	1.23	1.16	-----	1.55	-----	1.4
29	-----	-----	1.53	2.1	2.25	1.36	1.21	1.16	1.3	1.55	-----	-----
30	1.5	-----	1.6	2.11	2.2	1.28	1.17	-----	1.4	1.50	1.3	1.45
31	1.6	-----	1.6	-----	2.3	-----	1.10	1.13	-----	1.58	-----	-----

Note.—Ice conditions January 1 to February 22 and December 0-31.

**STATION RATING TABLE**  
For Chalk Creek at Coalville, Utah, from October 29, 1904, to December 31, 1905.

Gage height,	Dis-charge,						
Feet.	Sec. feet.	Feet.	Sec. feet.	Feet.	Sec. ft.	Feet.	Sec. feet.
1.10	3	1.60	22	1.00	74	2.30	108
1.20	6	1.60	31	2.00	94	2.40	197
1.30	10	1.70	43	2.10	110	2.50	227
1.40	16	1.80	57	2.20	141	2.60	268

Note.—The above table is applicable only for open-channel conditions. It is based on six discharge measurements made during 1904-5. It is well defined between gage heights 1.4 feet and 2.25 feet.

**ESTIMATED MONTHLY DISCHARGE**  
**Of Chalk Creek at Coalville, Utah, for 1904 and 1905.**  
**(Drainage area, 248 square miles.)**

Month,	Discharge in Second-Feet.			Total in Acre-Feet.	Run-Off.	
	Maximum	Minimum	Mean.		Sec.-ft. per Sq. mile.	Depth in Inches.
<b>1904.</b>						
October 23-31	22	20	21.6	386	.087	.020
November	31	8	20.2	1,202	.081	.000
<b>1905.</b>						
February 23-28	22	22	22.0	262	.089	.020
March	33	16	20.0	1,699	.105	.121
April	118	22	55.4	3,206	.223	.249
May	274	68	130.	8,517	.560	.616
June	197	9	95.2	5,605	.384	.428
July	28	4.8	11.0	676	.044	.051
August	6	3.6	4.8	205	.019	.022
September	15	3.6	5.0	351	.024	.027
October	29	10	20.9	1,285	.084	.007
November	31	10	18.7	1,113	.075	.084
December 1-5	22	18	20.6	204	.083	.015
The period (1905)	274	3.6	38.6	23,200	.160	1.76

Note.—Ice conditions December, 1904, January 1 to February 22, and December 6-31, 1905. Discharge interpolated on days when gage was not read.

### Lost Creek, near Croyden, Utah.

Lost Creek, which enters Weber River near the town of Croyden, drains an area of 205 square miles. The basin is generally rough and barren, the rocks being conglomerate and sandstone, with a few outcropping ledges of loose, porous limestone, and but a thin layer of soil. The stream flows for the most part in a narrow canyon, with occasional small flats devoted to irrigated farms. Near the head the creek receives numerous tributaries, all short and confined to steep, narrow canyons. The normal flow comes principally from springs, well distributed over the entire watershed, but the spring flood is caused by the melting of snow, which forms the greater part of the precipitation. There are no forests, swamps, or meadows along the stream. A few undeveloped storage sites exist in the upper portion of the basin.

The station was established February 3, 1905. It is located about 150 feet above the junction of Lost Creek with Weber River, about 10 miles down Weber River from Echo, and about  $1\frac{1}{4}$  miles west of the town of Croyden on the main road up Lost Creek. The data derived are of value in connection with the amount of water to be diverted into the Henefer reservoir.

The channel is slightly curved for about 100 feet above and 75 feet below the station. The right bank is steep and high; the left bank is sloping and near the channel is sufficiently high to prevent overflow, but about 50 feet back there is an old channel, originally occupied by the stream, which may contain some water during extreme floods. The bed of the creek is composed of gravel and sand, and is liable to shift at flood stages. A slight raise in the bed about 20 feet below the gage causes a small riffle. The velocity is moderate and fairly uniform.

Discharge measurements are made by wading. The section is located about 20 feet above the gage and is marked by a 4 by 4 inch by 2-foot stake, the initial point for soundings, driven into the right bank about 6 feet from the edge.

The gage, which is read daily by Isaiah Stewart, a farmer, is an inclined 4 by 4 inch by 12-foot piece of Oregon fir, fastened to vertical posts embedded in the right bank. As the bank is composed of loose gravel and sand the permanency of the gage is uncertain. The bench mark is a 3-inch metallic post, set  $3\frac{1}{2}$  feet in the ground at a point 50 feet northeast of the gage and 15 feet northwest of the initial stake; elevation above gage datum 8.71 feet.

**DISCHARGE MEASUREMENTS**  
Of Lost Creek, near Croyden, Utah, in 1905.

Date.	Hydrographer.	Width.	Area of section.	Mean velocity.	Gage height.	Discharge.
		Feet.	Square feet.	Ft. per second.	Feet.	Second-feet.
February 2	W. G. Swendsen	30	24	1.00	2.85	24
May 2*	do	27	72	2.53	3.50	181
June 28	do	26	15	1.00	2.68	15
August 19	W. D. Beers	20	12	.82	2.60	10

\*Gaging made at bridge.

**DAILY GAGE HEIGHT**  
In feet, of Lost Creek, near Croyden, Utah, for 1905.

Day.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
1		2.85	2.85	3.4	2.75	2.7	2.6	2.6	2.55	2.55	2.6	
2		2.85	2.85	2.85	3.5	2.75	2.7	2.6	2.6	2.55	2.55	2.05
3		2.85	2.85	2.85	3.45	2.75	2.7	2.6	2.6	2.55	2.55	2.05
4		2.85	2.85	2.85	3.35	2.75	2.7	2.6	2.6	2.55	2.55	2.05
5		2.8	2.85	2.85	3.3	2.75	2.7	2.6	2.6	2.55	2.55	2.05
6		2.8	2.85	2.85	3.3	2.75	2.7	2.6	2.6	2.55	2.55	2.05
7		2.8	2.85	2.85	3.25	2.75	2.7	2.6	2.6	2.55	2.55	2.05
8		2.8	2.85	2.85	3.2	2.8	2.7	2.6	2.6	2.55	2.55	2.05
9		2.8	2.85	2.9	3.25	2.8	2.65	2.6	2.6	2.55	2.55	2.05
10		2.8	2.85	3.0	3.25	2.8	2.6	2.6	2.6	2.55	2.55	2.05
11		2.8	2.85	2.95	3.2	2.8	2.6	2.6	2.6	2.55	2.55	2.05
12		2.7	2.85	2.95	3.2	2.75	2.6	2.6	2.6	2.55	2.55	2.0
13		2.7	2.85	2.9	3.2	2.75	2.6	2.6	2.6	2.55	2.55	2.0
14		2.75	2.85	2.9	3.2	2.75	2.6	2.6	2.6	2.55	2.55	2.0
15		2.75	2.85	2.9	3.2	2.75	2.6	2.6	2.6	2.55	2.55	2.0
16		2.75	2.85	2.9	3.2	2.75	2.6	2.6	2.6	2.55	2.55	2.0
17		2.8	2.85	3.0	3.2	2.75	2.6	2.6	2.6	2.55	2.55	2.0
18		2.8	2.85	3.0	3.25	2.75	2.6	2.6	2.6	2.55	2.55	2.0
19		2.8	2.85	3.0	3.3	2.75	2.6	2.6	2.6	2.55	2.55	2.0
20		2.8	2.85	3.0	3.3	2.75	2.6	2.6	2.6	2.55	2.55	2.0
21		2.8	2.85	3.1	3.3	2.7	2.6	2.6	2.6	2.55	2.55	2.0
22		2.8	2.85	3.05	3.35	2.7	2.6	2.6	2.6	2.55	2.55	2.0
23		2.85	2.85	3.0	3.35	2.7	2.6	2.6	2.6	2.55	2.55	2.0
24		2.85	2.85	3.1	3.35	2.7	2.6	2.6	2.6	2.55	2.55	2.0
25		2.85	2.85	3.1	3.3	2.7	2.6	2.6	2.6	2.55	2.55	2.0
26		2.85	2.85	3.15	3.2	2.7	2.6	2.6	2.6	2.55	2.55	2.0
27		2.85	2.85	3.2	3.2	2.7	2.6	2.6	2.6	2.55	2.55	2.0
28		2.85	2.85	3.3	2.8	2.7	2.6	2.6	2.6	2.55	2.55	2.0
29		2.85	2.85	3.3	2.8	2.7	2.6	2.6	2.6	2.55	2.55	2.0
30		2.85	2.85	3.3	2.8	2.7	2.6	2.6	2.6	2.55	2.55	2.0
31		2.85	2.85		2.75	-----	2.6	2.6	2.6	2.55	2.55	2.0

Note.—Open-channel conditions throughout the year.

### Weber River near Croyden, Utah.

This station was established February 1, 1905. It is located about  $1\frac{1}{2}$  miles west of the town of Croyden, one-fourth mile below the junction of Lost Creek and Weber River, about three-fourths mile up the river from Croyden station on the Union Pacific Railroad, and 10 miles down the river from the town of Echo, just below the narrow canyon at the lower end of Henefer Valley.

The station is important as showing the amount of water available for storage in the Henefer basin, about 2 miles above the station, the development of which is a part of the reclamation scheme on the Weber River project. The winter records will be of special value, since the entire winter flow of the stream is at present discharged as waste into Great Salt Lake.

The channel is straight for about 1,000 feet above and 700 feet below the station. Both banks are sloping and sufficiently high to prevent overflow. The bed of the stream is of small, compact gravel and soil and is smooth and permanent. The velocity is moderate and uniform. The stream is shallow, especially during low water, the depth seldom exceeding 3 feet. There is a free flow, no obstruction to gage readings or discharge measurements existing. Information as to winter conditions is as yet rather indefinite.

Discharge measurements are made by means of a cable and car. The cable is marked at 5-foot intervals, the west face of a tree to which the east end of the cable is attached, being the initial points for soundings.

The gage, which is read daily by Isiah Stewart, a farmer who lives about 300 feet from the station, is an inclined piece of 4 by 4 fir, fastened to vertical posts near the water's edge, and to a large cottonwood tree on the right bank about 75 feet above the cable. It is graduated to read vertically. The gage is referred to bench marks as follows: (1) A 3-inch metal post set  $3\frac{1}{2}$  feet in the ground on the bank 20 feet north from the gage; elevation above datum of gage, 8.41 feet; (2) a 30-penny nail driven in the tree which supports the upper end of the gage; elevation above gage datum, 7.87 feet.

Results of discharge measurements at this station are contained in Water-Supply Paper No. 133 of the United States Geological Survey, page 364.

**DISCHARGE MEASUREMENTS**  
Of Weber River, near Croyden, Utah, in 1905.

Date.	Hydrographer.	Width.	Area of section.	Mean velocity.	Gage height.	Discharge.
		Feet.	Square feet.	Ft. per second.	Feet.	Second-feet.
January 31*	W. G. Swendsen	90	93	2.04	1.90	193
March 7	do	95	126	2.07	2.22	337
May 2	do	102	192	3.73	2.85	703
June 17	do	100	213	4.10	3.05	875
June 28	do	91	113	2.45	2.10	277
August 19	W. D. Beers	89	56	.02	1.40	51
November 16	W. G. Swendsen	91	88	1.70	1.75	155

\*Measurement made by wading.

**DAILY GAGE HEIGHT**  
In feet, of Weber River, near Croyden, Utah, for 1905.

Day.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
1	1.05	1.05	1.05	2.05	2.85	1.0	1.4	1.4	1.65	1.8	1.8	
2	1.05	1.05	2.0	2.8	3.0	1.0	1.4	1.4	1.65	1.8	1.8	
3	1.05	2.0	2.0	2.75	3.1	1.85	1.4	1.45	1.65	1.8	1.85	
4	1.05	2.1	1.05	2.6	3.55	1.8	1.4	1.45	1.0	1.8	1.8	
5	1.0	2.2	1.05	2.6	3.0	1.75	1.4	1.5	1.0	1.8	1.7	
6	1.0	2.1	1.05	2.55	3.35	1.7	1.4	1.5	1.0	1.8	1.6	
7	1.0	2.2	1.05	2.5	3.3	1.05	1.4	1.5	1.0	1.8	1.05	
8	1.0	2.1	1.05	2.45	3.0	1.0	1.4	1.5	1.0	1.8	1.7	
9	1.85	2.1	1.05	2.5	3.0	1.55	1.4	1.5	1.0	1.8	1.7	
10	1.8	2.1	2.2	2.5	3.0	1.5	1.4	1.5	1.0	1.8	1.7	
11	1.8	2.1	2.3	2.4	3.4	1.5	1.5	1.5	1.0	1.8	1.05	
12	1.05	2.1	2.25	2.4	3.4	1.5	1.5	1.5	1.0	1.75	1.0	
13	1.05	2.05	2.2	2.4	3.4	1.5	1.5	1.5	1.0	1.75	1.0	
14	1.05	2.05	2.15	2.35	3.45	1.5	1.4	1.5	1.0	1.75	1.0	
15	1.05	2.0	2.15	2.3	3.5	1.5	1.4	1.5	1.0	1.75	1.0	
16	1.05	2.0	2.2	2.3	3.5	1.5	1.4	1.5	1.0	1.75	1.05	
17	1.8	1.05	2.25	2.3	3.0	1.55	1.4	1.5	1.0	1.8	1.0	
18	1.8	2.0	2.3	2.4	2.0	1.75	1.4	1.5	1.0	1.8	1.0	
19	1.8	2.1	2.3	2.6	2.8	1.0	1.4	1.5	1.0	1.8	1.0	
20	1.8	2.05	2.4	2.7	2.7	1.0	1.4	1.5	1.0	1.8	1.0	
21	1.8	2.0	2.0	2.8	2.7	1.0	1.4	1.5	1.0	1.8	1.0	
22	1.8	1.05	2.4	2.05	2.05	1.0	1.4	1.5	1.7	1.85	1.5	
23	1.0	1.0	2.2	2.05	2.0	1.8	1.4	1.5	1.75	1.8	1.0	
24	1.0	1.05	2.3	2.05	2.0	1.8	1.4	1.5	1.75	1.8	1.0	
25	1.05	2.0	2.3	2.0	2.4	1.8	1.4	1.5	1.75	1.8	1.0	
26	1.05	2.0	2.4	2.85	2.3	1.0	1.4	1.5	1.75	1.75	1.7	
27	1.05	2.0	2.6	2.85	2.2	1.5	1.4	1.5	1.75	1.8	1.0	
28	1.05	2.0	2.7	2.8	2.0	1.45	1.4	1.5	1.75	1.8	1.0	
29	2.0	2.6	2.8	2.0	1.4	1.4	1.5	1.65	1.75	1.8	1.0	
30	2.0	2.0	2.75	1.05	1.4	1.4	1.7	1.8	1.75	1.8	1.0	
31	1.0	1.05	2.75	1.4	1.4	1.4	1.8	1.8	1.75	1.8	1.0	

Note.—Narrow strip of ice along edges during part of the winter months, but not enough to materially affect the flow.

**STATION RATING TABLE**  
Of Weber River, near Croyden, Utah, from January 31 to December 31, 1905.

Gage height.	Discharge.	Gage height.	Discharge.	Gage height.	Discharge.	Gage height.	Discharge.
Feet.	Sec.-feet.	Feet.	Sec.-feet.	Feet.	Sec.-feet.	Feet.	Sec.-feet.
1.40	50	2.10	274	2.80	673	3.40	1,160
1.50	73	2.20	319	2.90	745	3.50	1,250
1.60	99	2.30	368	3.00	820	3.60	1,345
1.70	128	2.40	422	3.10	900	3.70	1,445
1.80	160	2.50	480	3.20	985	3.80	1,545
1.90	195	2.60	541	3.30	1,070	3.90	1,650
2.00	233	2.70	605				

Note.—The above table is applicable only for open channel conditions. It is based on seven discharge measurements made during 1905. It is well defined between gage heights 1.4 feet and 3.1 feet.

**ESTIMATED MONTHLY DISCHARGE**  
Of Weber River, near Croyden, Utah, for 1905.  
(Drainage area, 1,200 square miles.)

Month.	Discharge in Second-Feet.			Total in Acre-Feet.	Run-Off.	
	Maximum	Minimum,	Mean.		Sec.-ft. per Sq. mile.	Depth in Inches.
January			150	0,223	0.13	0.15
February	214	114	175	9,710	0.15	0.16
March	310	105	240	15,130	0.20	0.23
April	605	214	340	20,590	0.20	0.32
May	782	308	574	35,200	0.48	0.55
June	1,050	211	870	52,130	0.73	0.81
July	105	50	110	7,317	0.10	0.12
August	73	50	52.2	3,210	0.04	0.05
September	128	50	73	4,344	0.00	0.07
October	100	99	115	7,071	0.00	0.10
November	178	141	157	9,342	0.13	0.15
December	178	73	112	9,887	0.00	0.10
The year	1,050	50	250	180,233	0.35	2.71

**DISCHARGE MEASUREMENTS**  
Of Weber River, at Devil's Slide, near Croyden, Utah.

Date.	Hydrographer.	Width.	Area of section.	Mean velocity.	Gage height.	Discharge.
		Feet.	Square feet.	Ft. per second.	Feet.	Second- feet.
January 9	W. G. Swendsen	94	87.1	1.77	1.75	163.0
April 29	H. S. Kleinschmidt	93	157	3.20	2.48	515
May 12	do	100	353	5.85	4.40	2,070
June 15	T. Girlevé, Jr.	110	430	6.02	4.90	2,041
August 9	do	91	85.5	1.78	1.04	162

**STATION RATING TABLE**  
**For Weber River, at Devil's Slide, near Croyden, Utah, from Jan. 1, 1906, to**  
**Dec. 31, 1906.**

Gage	Dis-	Gage	Dis-	Gage	Dis-	Gage	Dis-
Feet.	Sec.-feet.	Feet.	Sec.-feet.	Feet.	Sec.-feet.	Feet.	Sec.-feet.
1.50	.85	2.60	.580	3.60	1,225	4.60	2,300
1.60	1.20	2.70	.035	3.70	1,300	4.70	2,410
1.70	1.60	2.80	.695	3.80	1,400	4.80	2,530
1.80	2.00	2.90	.745	3.90	1,505	4.90	2,650
1.90	2.40	3.00	.805	4.00	1,615	5.00	2,770
2.00	2.85	3.10	.870	4.10	1,725	5.10	2,880
2.10	3.30	3.20	.935	4.20	1,835	5.20	2,990
2.20	3.80	3.30	1,000	4.30	1,955	5.30	3,100
2.30	4.30	3.40	1,075	4.40	2,075	5.40	3,210
2.40	4.80	3.50	1,150	4.50	2,190	5.50	3,320
2.50	5.30						

**DAILY GAGE HEIGHT**  
**Of Weber River, at Devil's Slide, Utah, for 1906.**

Day.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
1.....	1.00	1.80	1.90	----	2.87	4.22	3.00	1.72	2.15	1.80	1.82	1.74
2.....	1.00	1.75	1.80	----	2.86	4.00	3.21	1.85	2.35	1.80	1.90	1.72
3.....	1.05	1.70	1.80	----	2.89	4.10	3.30	1.83	2.40	1.80	1.87	1.80
4.....	1.70	1.80	1.85	----	3.16	4.10	3.10	1.82	2.20	1.98	1.80	1.85
5.....	1.70	1.75	1.85	----	3.00	4.30	2.90	1.84	2.15	1.79	1.83	1.00
6.....	1.60	1.70	1.80	----	3.61	5.00	2.80	1.81	2.10	1.80	1.85	1.01
7.....	1.70	1.70	1.85	----	3.00	4.00	2.76	1.70	2.03	1.78	1.87	1.02
8.....	1.70	1.60	1.85	2.08	3.68	4.35	2.70	1.71	2.00	1.70	1.90	1.00
9.....	1.80	1.65	1.90	3.10	3.80	4.15	2.08	1.70	2.00	1.98	1.87	----
10.....	1.00	1.05	1.95	2.85	3.90	4.30	2.03	1.07	2.00	1.75	1.80	----
11.....	1.00	1.70	1.90	2.95	4.10	4.40	2.50	1.06	2.00	1.70	1.85	----
12.....	1.00	1.75	1.90	2.00	4.10	4.80	2.46	1.05	2.00	1.75	1.82	----
13.....	1.00	1.75	2.20	2.03	4.00	5.30	2.40	1.07	1.95	1.75	1.83	----
14.....	1.05	1.80	2.10	2.00	4.10	5.40	2.40	1.05	2.00	1.70	1.82	----
15.....	1.70	1.00	2.10	2.03	4.00	5.00	2.40	1.05	1.93	1.78	1.81	----
16.....	1.70	2.00	1.90	2.70	3.80	4.45	2.35	1.07	2.00	1.77	1.81	----
17.....	1.70	1.85	1.85	2.85	3.70	4.50	2.30	1.08	2.00	1.70	1.85	----
18.....	1.75	1.85	1.85	3.10	3.65	4.45	2.20	1.09	2.00	1.75	1.80	----
19.....	2.10	1.85	1.85	3.05	3.00	4.00	1.15	1.75	1.98	1.70	1.73	----
20.....	2.00	1.80	1.80	3.05	3.90	3.90	2.10	2.00	1.90	1.77	1.71	----
21.....	2.00	1.85	1.90	3.15	4.00	3.75	2.00	2.50	1.98	----	1.78	----
22.....	1.00	1.80	2.00	3.35	4.20	3.70	1.05	2.05	1.98	----	1.00	----
23.....	1.80	1.80	2.20	3.50	4.15	3.08	1.00	2.07	1.80	----	1.71	----
24.....	1.80	1.86	2.45	3.55	4.10	3.50	1.00	2.10	1.87	----	1.70	----
25.....	1.85	1.85	3.10	3.35	4.30	3.00	1.80	2.30	1.80	----	1.80	----
26.....	1.80	1.85	3.20	3.20	3.80	3.00	1.87	2.25	1.80	----	1.80	----
27.....	1.80	1.80	3.00	3.15	4.10	3.10	1.85	2.20	1.80	----	1.85	----
28.....	1.80	1.00	3.03	3.00	4.80	3.15	1.70	2.15	1.80	1.80	1.87	----
29.....	1.80	----	2.75	2.00	5.20	3.00	1.08	2.10	1.70	1.78	1.80	----
30.....	1.75	----	2.75	2.85	4.80	3.10	1.00	2.05	1.78	1.70	1.70	----
31.....	1.80	----	2.00	----	4.55	----	1.70	2.10	----	1.78	----	----

**ESTIMATED MONTHLY DISCHARGE.**  
**Of Weber River, at Devil's Slide, near Croyden, Utah, for 1906.**  
 (Drainage area, 1,200 square miles.)

Month,	Discharge in Second-Feet.			Total in Seco.-Feet.	Run-off.	
	Max. (mm.)	Middle (mm.)	Min. (mm.)		Seco.-Feet W. in all.	Seco.-Feet Run-off
January	330	120	185	11,375	0.15	0.17
February	285	100	200	11,105	0.17	0.18
March	1,260	200	388	23,855	0.32	0.37
April	1,185	580	773	46,235	0.61	0.71
May	2,090	735	1,577	90,965	1.31	1.52
June	3,210	805	1,705	106,810	1.50	1.67
July	1,000	150	404	28,530	0.30	0.45
August	620	140	208	16,480	0.22	0.25
September	480	100	285	16,960	0.24	0.27
October	275	150	200	12,300	0.17	0.20
November	240	175	220	13,000	0.18	0.20
December	-----	-----	240	14,755	0.20	0.23
The year	3,210	140	550	308,460	0.46	0.62

### Weber River near Uinta, Utah.

The gaging station on Weber River, established in October, 1899, is located in the canyon, 5 miles east of Uinta, on the Union Pacific Railroad, immediately above the narrows known as Devils Gate. The gage is vertical, and is supported from above by a projecting timber placed out of reach of high water. It is read by Hugh McQueen. The bench mark consists of a spike driven into the first telegraph pole in the canyon above the gage, at an elevation of 17.44 feet above gage datum. The equipment consisted of a cable and car, but these were condemned early in 1903, and are not now in use. Observations were continued until July 11, 1903, when the State Engineer began a systematic study of the Weber River water supply.

The observations at this station during 1903 have been made under the direction of G. L. Swendsen, district hydrographer.

This station has been abandoned since the establishing of a station near Croyden, Utah.

ESTIMATED MONTHLY DISCHARGE,  
Of Weber River, near Uinta, Utah, for 1889.  
(Drainage area, 1,000 square miles.)

Month.	Discharge in Second-Feet.			Total in Acre-Feet.	Run-Off.	
	Maximum	Minimum	Mean		Sec.-ft. per Sq. mile.	Depth in Inches.
October 13-31	1,200	130	181	11,131	0.11	0.13
November -----	200	160	208	12,370	0.12	0.14
December -----	815	200	430	26,415	0.27	0.31

ESTIMATED MONTHLY DISCHARGE,  
Of Weber River, near Uinta, Utah, for 1890.  
(Drainage area, 1,000 square miles.)

Month.	Discharge in Second-Feet.			Total in Acre-Feet.	Run-Off.	
	Maximum	Minimum	Mean		Sec.-ft. per Sq. mile.	Depth in Inches.
January -----	815	200	457	28,105	0.29	0.33
February -----	1,400	200	547	30,353	0.34	0.36
March -----	2,130	200	1,001	57,000	0.08	0.70
April -----	4,280	970	2,181	129,018	1.30	1.52
May -----	5,465	3,470	4,528	278,472	2.83	3.20
June -----	3,035	1,320	2,017	120,011	1.27	1.11
July -----	1,220	200	540	33,763	0.31	0.40
August -----	450	200	280	17,220	0.18	0.20
September -----	200	210	203	15,750	0.17	0.18
October -----	450	200	331	19,850	0.31	0.22
November -----	310	200	208	17,720	0.19	0.21
December -----	310	210	200	17,830	0.18	0.21
The year	5,405	200	1,070	770,002	0.07	0.09

**ESTIMATED MONTHLY DISCHARGE,  
Of Weber River, near Uintah, Utah, for 1891.  
(Drainage area, 1,000 square miles.)**

Month.	Discharge in Second-Feet,			Total in Acre-Feet.	Run-Off.	
	Maximum	Minimum	Mean		Sec.-ft. per Sq. mile.	Depth in Inches.
January	450	200	303	18,034	0.10	0.23
February	1,220	200	401	25,586	0.20	0.30
March	1,220	450	625	38,437	0.30	0.45
April	2,420	520	1,502	89,300	0.04	1.05
May	4,655	1,040	2,752	169,250	1.72	1.98
June	2,225	1,135	1,621	96,440	1.01	1.13
July	1,265	395	844	51,006	0.53	0.61
August	520	240	338	20,787	0.21	0.24
September	520	200	402	23,010	0.25	0.28
October	605	520	590	30,838	0.38	0.43
November	605	520	573	34,003	0.36	0.46
December	605	520	534	32,841	0.33	0.30
The year	4,655	240	880	638,109	0.55	7.40

**ESTIMATED MONTHLY DISCHARGE,  
Of Weber River, near Uintah, Utah, for 1892.  
(Drainage area, 1,000 square miles.)**

Month.	Discharge in Second-Feet,			Total in Acre-Feet.	Run-Off.	
	Maximum	Minimum	Mean		Sec.-ft. per Sq. mile.	Depth in Inches.
January	800	520	590	36,838	0.37	0.43
February	800	520	605	39,062	0.43	0.47
March	1,220	590	800	49,200	0.50	0.58
April	1,220	450	900	53,530	0.56	0.63
May	5,750	590	2,703	160,357	1.00	1.05
June	4,530	2,035	2,807	170,580	1.70	2.00
July	2,035	100	810	50,308	0.51	0.59
August	100	100	230	14,008	0.15	0.17
September	200	100	187	14,120	0.12	0.13
October	290	200	240	14,700	0.16	0.17
November	450	200	357	21,241	0.22	0.25
December	800	305	470	20,274	0.30	0.34
The year	5,750	100	907	637,000	0.57	7.71

**DAILY GAGE HEIGHT**  
Of Weber River, near Uinta, Utah, for 1893.

Day.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
1-----	1.80	0.90	0.90	3.50	3.50	5.00	2.30	0.30	0.20	0.20	0.40	2.00
2-----	1.40	0.90	0.90	3.80	3.50	5.20	2.00	0.20	0.20	0.30	0.40	2.00
3-----	1.30	0.90	0.90	4.00	3.60	5.00	1.80	0.20	0.20	0.40	0.40	1.60
4-----	1.20	0.90	0.90	4.20	3.70	5.00	1.60	0.20	0.20	0.40	0.40	1.20
5-----	1.10	0.90	0.90	4.00	3.80	4.80	1.40	0.20	0.20	0.40	0.40	1.00
6-----	1.10	0.90	0.90	3.60	3.80	4.60	1.00	0.10	0.20	0.40	0.40	0.90
7-----	1.10	0.90	0.90	3.20	4.00	4.40	1.00	0.10	0.20	0.40	0.40	0.90
8-----	1.10	0.90	0.90	2.80	4.20	4.60	0.90	0.10	0.20	0.40	0.40	0.90
9-----	1.10	0.90	0.90	2.00	4.40	4.80	1.00	-----	0.20	0.40	0.40	0.00
10-----	1.00	0.90	0.90	1.50	4.80	5.00	1.20	-----	0.20	0.40	0.40	0.80
11-----	1.00	0.90	0.90	1.50	5.00	5.50	1.40	-----	0.20	0.40	0.40	0.70
12-----	1.00	0.90	1.00	1.00	5.20	5.40	1.40	-----	0.20	0.40	0.40	0.70
13-----	1.00	0.90	1.20	1.00	5.20	5.50	1.40	-----	0.20	0.40	0.40	0.70
14-----	1.00	0.90	1.40	1.00	6.00	5.40	1.40	-----	0.20	0.40	0.40	0.70
15-----	1.00	0.90	1.80	1.00	6.80	5.60	1.30	-----	0.20	0.40	0.40	0.70
16-----	1.00	0.90	1.00	1.40	7.60	5.00	1.20	-----	0.20	0.40	0.40	0.70
17-----	1.00	0.90	1.00	1.60	7.80	4.40	1.00	-----	0.20	0.40	0.40	0.70
18-----	1.00	0.90	2.00	2.00	7.20	4.20	0.90	0.10	0.20	0.40	0.40	0.70
19-----	1.00	0.90	2.10	2.10	6.40	4.00	0.80	0.10	0.20	0.40	0.40	0.60
20-----	0.90	0.90	2.40	2.30	5.70	3.80	0.70	-----	0.20	0.40	0.40	0.50
21-----	0.90	0.90	2.40	2.50	5.40	3.60	0.50	-----	0.20	0.40	0.50	0.50
22-----	0.90	0.90	2.60	2.70	5.00	3.40	0.40	0.10	0.20	0.40	0.60	0.50
23-----	0.90	0.90	2.60	2.90	4.80	3.30	0.50	0.20	0.20	0.40	0.70	0.50
24-----	0.90	0.90	2.80	3.60	4.60	3.10	0.50	0.20	0.20	0.40	0.80	0.50
25-----	0.90	0.90	2.90	4.00	4.20	2.90	0.50	0.10	0.20	0.40	0.80	0.50
26-----	0.90	0.90	3.00	4.50	4.10	2.80	0.40	0.10	0.20	0.40	1.00	0.50
27-----	0.90	0.90	3.20	4.00	4.00	2.60	0.40	0.20	0.20	0.40	1.00	0.60
28-----	0.90	0.90	3.40	3.00	4.20	2.40	0.40	0.20	0.20	0.40	1.00	0.50
29-----	0.90	-----	3.40	3.40	4.10	2.40	0.40	0.20	0.20	0.40	1.00	0.50
30-----	0.90	-----	3.40	3.40	4.00	2.30	0.30	0.20	0.20	0.40	1.80	0.50
	0.90	-----	3.50	-----	4.80	-----	0.30	0.20	-----	0.40	-----	0.50

**ESTIMATED MONTHLY DISCHARGE.**  
Of Weber River, near Uinta, Utah, for 1893.  
(Drainage area, 1,000 square miles.)

Month.	Discharge in Second-Foots,			Total in Acre-Foots,	Run-Off,	
	Maximum	Minimum	Mean		Sec. ft. per Sq. mile,	Depth in Inches.
January	740	190	290	15,987	0.16	0.18
February	490	190	190	10,552	0.12	0.12
March	2,225	190	913	50,137	0.57	0.60
April	3,250	210	1,523	40,625	0.03	1.10
May	7,280	2,225	3,772	271,775	2.30	2.08
June	4,530	1,135	2,991	177,977	1.87	2.45
July	4,135	30	281	17,278	0.18	0.21
August	30	0	10	015	0.000	0.007
September	20	20	20	1,100	0.012	0.014
October	40	20	30	2,308	0.021	0.028
November	740	40	100	5,950	0.06	0.07
December	890	50	172	10,570	0.11	0.13
The year	7,280	0	809	601,060	0.53	7.35

Based on rating table for 1894.

**DISCHARGE MEASUREMENTS**  
Of Weber River, near Uinta, Utah, in 1894.

Date.	Hydrographer.	Gage height.	Discharge.
		Feet.	Second-feet.
July _____	S. Fortier_____	*1.10	396
August 15 _____	do_____	0.50	141

\*Unreliable.

**DAILY GAGE HEIGHT**  
Of Weber River, near Uinta, Utah, for 1894.

Day.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
1.								0.50	1.80	1.10	1.00	0.90
2.								0.50	1.20	1.20	1.00	1.00
3.								0.50	1.20	1.20	1.10	1.00
4.								0.50	1.20	1.20	1.10	0.80
5.								0.40	1.20	1.20	1.00	0.80
6.								0.50	1.20	1.10	1.00	0.80
7.								0.50	1.10	1.10	1.10	0.80
8.								0.50	1.10	1.10	1.10	0.80
9.								0.50	1.10	1.10	1.00	0.80
10.								0.50	1.20	1.10	1.00	0.90
11.								0.50	1.10	1.00	1.00	0.90
12.								0.40	1.10	1.00	1.00	0.90
13.								0.40	1.20	1.00	1.00	0.90
14.								0.40	1.20	1.00	1.00	0.80
15.								0.50	1.10	1.00	0.90	0.90
16.								0.50	1.00	1.00	1.00	0.90
17.								0.40	1.10	1.00	1.00	1.00
18.								0.40	1.20	1.00	1.00	1.00
19.								0.50	1.10	1.00	1.00	1.00
20.								1.10	0.60	1.10	1.00	0.90
21.								1.00	0.60	1.00	1.10	0.90
22.								0.00	0.70	1.00	1.10	0.90
23.								0.00	0.80	1.00	1.10	0.90
24.								0.00	0.80	1.00	1.00	0.90
25.								0.00	0.80	0.00	1.00	1.00
26.								0.00	0.80	0.00	1.10	1.00
27.								0.80	0.80	0.00	1.10	1.00
28.								0.80	0.80	1.00	1.20	1.00
29.								0.70	0.80	1.00	1.10	1.00
30.								0.70	0.80	1.00	1.10	1.00
31.								0.00	0.80	1.10	1.10	1.00

**ESTIMATED MONTHLY DISCHARGE.**  
**Of Weber River, near Uinta, Utah, for 1894.**  
 (Drainage area, 1,600 square miles.)

Month.	Discharge in Second-Feet.			Total in Acre-Feet.	Run-Off.	
	Maximum	Minimum	Mean		Sec.-ft. per Sq. mile.	Depth in Inches.
January*						
February*						
March*						
April*						
May*						
June*						
July 20-31	200	70	190	4,046	0.11	0.001
August	140	40	109	6,702	0.07	0.08
September	340	80	238	14,102	0.15	0.17
October	340	240	270	17,082	0.18	0.21
November	240	100	237	14,103	0.15	0.17
December	240	140	209	12,851	0.13	0.15

\*Missing.

**DISCHARGE MEASUREMENTS**  
**Of Weber River, near Uinta, Utah, in 1895.**

Date.	Hydrographer.	Gage height, Feet.	Discharge,	
			Second-feet.	Second-feet.
January 28	J. L. Rhead.....	0.85	100	
June 17	do.....	2.20	955	
July 23	A. P. Davis.....	1.20	222	
August 17	J. L. Rhead.....	0.85	100	
September 14	S. Portler.....	0.85	91	
November 5	J. L. Rhead.....	1.11	274	

\*Icc.

**DAILY GAGE HEIGHT**  
Of Weber River, near Uinta, for 1895.

Day.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
1	0.90	0.80	1.00	3.20	3.50	2.45	1.20	1.10	0.90	1.20	1.30	1.40
2	0.90	0.80	1.05	2.80	3.40	2.55	1.10	1.10	0.90	1.30	1.30	1.40
3	0.90	0.80	1.25	2.80	3.50	2.50	1.10	1.10	0.90	1.30	1.40	1.40
4	1.00	0.80	1.20	2.80	3.60	2.50	1.10	1.10	0.90	1.30	1.40	1.40
5	1.00	0.80	1.10	2.10	3.50	2.40	1.10	1.10	0.90	1.30	1.40	1.40
6	1.00	0.80	1.10	1.90	3.35	2.50	1.10	1.10	0.90	1.30	1.40	1.40
7	1.00	0.80	1.00	2.20	3.30	2.45	0.95	1.10	0.90	1.30	1.40	1.40
8	1.00	0.85	1.25	2.00	3.30	2.50	0.95	1.10	0.90	1.30	1.40	1.40
9	1.00	0.85	1.25	2.40	3.35	2.45	0.85	1.10	0.90	1.30	1.40	1.40
10	0.90	0.85	1.10	2.65	3.50	2.30	0.85	1.10	0.90	1.30	1.40	1.40
11	0.90	0.85	1.00	2.60	3.50	2.35	0.80	0.95	1.00	1.30	1.40	1.40
12	1.00	0.85	1.00	2.60	3.40	2.35	0.80	0.90	1.00	1.30	1.40	1.40
13	1.10	0.80	0.90	2.50	3.35	2.35	0.80	0.80	1.00	1.30	1.40	1.40
14	1.00	0.80	0.90	2.70	3.30	2.30	0.80	0.90	1.00	1.30	1.40	1.40
15	1.00	0.80	1.20	2.80	3.40	2.25	0.80	0.85	1.10	1.30	1.40	1.40
16	1.00	0.80	1.15	2.70	3.45	2.15	0.80	0.90	1.10	1.30	1.40	1.40
17	1.00	0.80	1.00	2.55	3.45	2.05	0.80	0.90	1.10	1.30	1.40	1.40
18	0.90	0.82	1.10	2.55	3.35	2.05	0.80	0.90	1.20	1.30	1.40	1.40
19	1.00	0.85	1.10	2.60	3.25	1.95	0.80	0.90	1.20	1.30	1.40	1.40
20	1.10	0.90	1.20	2.60	3.30	1.85	1.50	0.90	1.20	1.30	1.40	1.40
21	1.10	0.90	1.20	3.00	3.45	1.85	1.50	0.90	1.20	1.30	1.40	1.40
22	1.00	0.90	0.90	3.00	3.15	1.75	1.45	0.90	1.20	1.30	1.40	1.40
23	0.80	0.80	1.00	3.00	3.15	1.75	1.35	0.90	1.20	1.30	1.40	1.40
24	0.70	1.10	1.15	2.00	3.00	1.05	1.25	0.90	1.20	1.30	1.40	1.40
25	0.80	1.15	1.30	3.00	2.90	1.60	1.10	0.90	-----	1.30	1.40	1.40
26	0.80	1.20	1.10	3.00	2.80	1.45	1.10	0.90	-----	-----	1.40	1.40
27	0.80	1.30	1.50	3.00	3.65	1.35	1.10	0.90	-----	-----	1.40	1.40
28	0.80	1.30	1.80	3.50	3.00	1.25	1.10	0.90	-----	-----	1.40	1.40
29	0.80	-----	1.20	3.50	3.00	1.25	1.10	0.90	-----	-----	1.40	1.40
30	0.80	-----	1.10	3.00	3.20	1.25	1.10	0.90	-----	-----	1.40	1.40
31	0.80	-----	3.20	-----	2.45	-----	1.10	0.90	-----	-----	1.50	1.50

**ESTIMATED MONTHLY DISCHARGE**  
Of Weber River, near Uinta, Utah, for 1895.  
(Drainage area, 1,000 square miles.)

Month.	Discharge in Second-Feet.			Total in Acre-Feet.	Run-Off,	
	Maximum	Minimum	Mean		Sec. ft. per Sq. mile.	Depth in Inches.
January	100	90	110	8,977	0.00	0.10
February	280	112	138	7,644	0.08	0.08
March	1,080	105	270	17,155	0.17	0.20
April	2,400	770	1,512	80,970	0.05	1.33
May	2,400	955	2,007	123,400	1.25	1.44
June	1,300	100	840	50,510	0.63	0.50
July	300	112	188	11,500	0.12	0.11
August	100	112	151	9,460	0.10	0.12
September	232	135	187	11,127	0.12	0.13
October	280	292	278	17,001	0.17	0.20
November	337	337	337	19,815	0.21	0.23
December	390	337	330	20,811	0.21	0.21
The year	2,400	90	531	387,600	0.33	4.77

**DISCHARGE MEASUREMENTS  
Of Weber River, near Uinta, Utah, in 1896.**

Date.	Hydrographer.	Gage height.	Discharge.
		Feet.	Second-feet.
April 27	J. L. Rhead	3.50	1,782
August 24	do	1.20	220
September 19	do	1.35	233

**DAILY GAGE HEIGHT  
OF Weber River, near Uinta, Utah, for 1896.**

Day.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
1	1.60	1.70	1.70	2.10	3.40	8.75	2.00	1.80	1.30	1.40	1.60	-----
2	1.70	1.70	1.70	2.25	3.30	8.50	1.93	1.00	1.30	1.40	1.70	-----
3	1.70	1.70	1.70	2.35	3.35	7.80	1.85	1.00	1.30	1.40	1.80	-----
4	1.70	1.70	1.70	2.45	3.55	7.30	1.78	1.80	1.30	1.40	1.80	-----
5	1.70	1.70	1.70	2.55	3.00	7.25	1.71	1.70	1.30	1.40	1.80	1.70
6	1.70	1.70	1.70	2.65	4.55	6.70	1.71	1.00	1.30	1.40	1.80	-----
7	1.70	1.70	1.70	2.85	4.45	5.75	1.71	1.00	1.30	1.40	1.80	-----
8	1.70	1.70	1.70	2.05	4.40	5.05	1.71	1.50	1.30	1.40	1.80	1.70
9	1.70	1.70	1.70	3.00	4.30	6.25	1.64	1.10	1.30	1.40	2.00	-----
10	1.70	1.70	1.70	2.85	2.05	5.00	1.57	1.30	1.30	1.40	2.00	-----
11	1.70	1.70	1.70	2.65	2.85	5.50	1.49	1.20	1.30	1.40	2.00	-----
12	1.70	1.70	1.70	2.50	2.55	5.15	1.49	1.10	1.30	1.40	2.00	-----
13	1.70	1.70	1.80	4.10	3.60	4.75	1.49	1.10	1.30	1.40	2.00	1.70
14	1.70	1.70	1.90	4.40	3.35	4.05	1.71	1.00	1.30	1.40	2.00	-----
15	1.70	1.70	1.90	4.40	2.05	4.40	1.04	1.00	1.30	1.40	1.00	1.60
16	1.70	1.70	2.00	3.55	3.00	3.75	1.09	1.00	1.30	1.40	1.80	-----
17	1.70	1.70	2.15	3.10	2.80	3.19	1.40	1.00	1.30	1.40	1.70	-----
18	1.70	1.70	2.30	3.55	2.80	3.10	1.40	1.00	1.30	1.60	1.70	1.00
19	1.70	1.70	2.55	3.03	2.70	3.10	1.03	1.00	1.30	1.60	1.70	-----
20	1.70	1.70	2.75	2.70	2.70	3.01	2.00	1.00	1.30	1.60	1.70	-----
21	1.70	1.70	2.90	2.50	2.85	2.81	2.00	1.00	1.30	1.60	1.70	-----
22	1.70	1.70	3.10	2.85	2.00	2.66	2.00	1.00	1.30	1.60	1.70	-----
23	1.70	1.70	3.25	2.00	2.00	2.57	2.00	*1.30	1.30	1.60	1.70	-----
24	1.70	1.70	2.95	2.60	4.85	2.48	2.00	1.30	1.30	1.60	1.70	1.50
25	1.70	1.70	2.90	2.60	5.70	2.48	1.93	1.30	1.30	1.60	1.80	-----
26	1.70	1.70	2.75	2.75	0.50	2.00	1.03	1.30	1.30	1.60	1.80	-----
27	1.70	1.70	2.05	2.05	0.05	2.22	1.03	1.30	1.30	1.60	1.70	-----
28	1.70	1.70	2.55	3.15	7.05	2.22	1.80	1.30	1.40	1.60	1.70	-----
29	1.70	1.70	2.45	3.35	8.10	2.14	1.80	1.30	1.40	1.60	1.70	1.50
30	1.70	.....	2.45	3.50	8.20	.....	1.80	1.30	1.40	1.60	1.70	-----
31	1.70	.....	2.40	.....	8.80	.....	1.80	1.30	1.40	1.60	1.70	-----

\*New gage.

**ESTIMATED MONTHLY DISCHARGE  
Of Weber River, near Uinta, Utah, for 1896.  
(Drainage area, 1,000 square miles.)**

Month.	Discharge in Second-Feet.			Total in Acre-Feet.	Run-Off.	
	Maximum	Minimum	Mean.		Sec.-ft. per Sq. mile.	Depth in Inches.
January	480	415	478	29,391	0.30	0.35
February	480	480	480	27,610	0.30	0.32
March	2,055	480	945	58,115	0.59	0.68
April	3,230	785	1,871	90,431	1.04	1.40
May	7,980	1,390	3,172	195,039	1.98	2.28
June	7,980	785	3,348	199,220	2.09	2.33
July	700	360	536	32,057	0.34	0.39
August	615	165	292	17,954	0.18	0.21
September	310	270	274	16,304	0.17	0.19
October	415	310	357	21,951	0.22	0.25
November	700	415	548	32,668	0.34	0.38
December	480	360	420	25,825	0.26	0.30
The year	7,980	155	1,014	660,465	0.67	9.08

**DISCHARGE MEASUREMENTS  
Of Weber River, near Uinta, Utah, for 1897.**

Date.	Hydrographer.	Gage height, Feet.	Discharge, Second-feet.
April 20	W. H. Dougall	5.40	3,780
May 12	do	5.25	3,602
May 27	do	4.95	3,281
June 24	do	2.20	805
July 20	do	1.12	140
September 10	do	1.40	250
October 10	do	1.83	483

**DAILY GAGE HEIGHT**  
Of Weber River, near Uinta, Utah, for 1897.

Day.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.		
1.	1.50			2.10	5.55	4.40	1.20	1.10	1.10	1.60	1.70	1.60		
2.	1.50	1.40	2.20	5.65	4.40	1.20	1.10	1.10	1.60	1.70	1.60			
3.			2.20	5.80	3.85	1.10	1.10	1.10	1.65	1.70	1.60			
4.				2.45	6.10	3.55	1.20	1.10	1.10	1.80	1.70	1.60		
5.	1.50	1.50	1.40	2.65	6.45	3.85	1.20	1.10	1.10	1.80	1.70	1.60		
6.					2.75	6.65	3.70	1.20	1.10	1.10	1.80	1.70	1.60	
7.					2.75	6.90	3.45	1.20	1.10	1.20	1.80	1.70	1.60	
8.					1.60	2.70	6.75	3.05	1.20	1.10	1.20	1.80	1.70	1.60
9.	1.50	1.50		2.95	6.25	2.90	1.20	1.10	1.20	1.80	1.70	1.60		
10.					3.50	5.65	2.90	1.20	1.10	1.20	1.80	1.70	1.60	
11.					3.45	5.40	2.90	1.20	1.10	1.20	1.80	1.70	1.60	
12.		1.50	1.60	3.65	5.30	2.75	1.20	1.10	1.20	1.80	1.70	1.60		
13.					3.80	5.50	2.80	1.20	1.10	1.20	1.80	1.70	1.60	
14.	1.50		1.50	3.85	5.80	2.70	1.20	1.10	1.20	1.80	1.70	1.60		
15.				1.50	4.05	5.90	2.55	1.20	1.10	1.20	1.80	1.70	1.60	
16.				1.50	4.50	5.85	2.60	1.20	1.10	1.20	1.80	1.70	1.60	
17.				1.50	4.60	5.65	2.60	1.20	1.10	1.20	1.80	1.70	1.60	
18.	1.40			1.50	4.85	5.65	2.00	1.10	1.10	1.20	1.80	1.70	1.60	
19.	1.40	1.50	1.50	5.30	5.65	2.60	1.10	1.10	1.30	1.80	1.70	1.60		
20.				1.50	5.70	5.85	2.45	1.10	1.10	1.30	1.80	1.70	1.60	
21.				1.00	5.35	5.75	2.30	1.10	1.10	1.30	1.80	1.60	1.60	
22.		1.40	1.75	4.90	5.75	2.30	1.10	1.10	1.30	1.80	1.60	1.60		
23.	1.40			1.80	4.50	5.55	2.20	1.10	1.10	1.30	1.80	1.60	1.60	
24.				1.85	4.05	5.55	2.10	1.10	1.10	1.30	1.80	1.60	1.60	
25.	1.50	1.40	2.10	3.85	5.60	2.10	1.10	1.10	1.30	1.80	1.60	1.60		
26.				2.50	4.10	5.25	2.10	1.10	1.10	1.35	1.80	1.60	1.45	
27.				2.70	4.70	4.95	1.00	1.10	1.10	1.40	1.80	1.00	1.50	
28.				2.75	5.15	4.45	1.03	1.10	1.10	1.40	1.80	1.00	1.45	
29.	1.50			2.00	5.40	4.25	1.55	1.10	1.10	1.55	1.80	1.00	1.40	
30.				2.10		4.45	1.45	1.10	1.10	1.60	1.80	1.00	1.40	
31.				2.10		4.50	1.10	1.10		1.70		1.40		

ESTIMATED MONTHLY DISCHARGE  
Of Weber River, near Uinta, Utah, for 1897.  
(Draining area, 1,000 square miles.)

Month.	Discharge in Second-Feet.			Total in Acre-Feet.	Run-Off,	
	Maximum	Minimum	Mean.		Sec.ft. per Sq.mile.	Depth in Inches.
January	305	200	200	17,832	0.18	0.21
February	305	200	204	16,328	0.18	0.10
March	1,182	200	462	28,109	0.20	0.33
April	4,004	605	2,255	134,182	1.41	1.67
May	5,342	2,580	4,012	210,000	2.61	2.00
June	2,742	282	1,223	72,773	0.70	0.81
July	100	100	175	10,760	0.11	0.13
August	100	100	100	9,838	0.10	0.12
September	355	100	200	12,430	0.13	0.14
October	475	355	462	29,107	0.20	0.33
November	115	355	395	23,504	0.25	0.28
December	355	282	330	20,811	0.21	0.21
The year	5,342	100	850	622,001	0.54	7.28

**DAILY GAGE HEIGHT**  
Of Weber River, near Uinta, Utah, for 1898.

Day.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
1	1.40	1.40	1.80	1.70	3.55	2.50	2.00	1.15	1.10	1.30	1.70	1.75
2	1.40	1.40	1.80	1.70	3.45	2.50	1.95	1.00	1.10	1.40	1.70	1.70
3	1.40	1.40	1.80	1.85	3.40	2.50	1.75	1.00	1.10	1.40	1.70	1.70
4	1.40	1.40	1.80	2.00	3.40	2.50	1.60	1.00	1.10	1.40	1.70	1.70
5	1.40	1.40	1.80	2.00	3.40	2.50	1.60	1.00	1.10	1.40	1.70	1.70
6	1.40	1.40	1.80	2.15	3.30	2.40	1.50	1.00	1.10	1.40	1.70	1.70
7	1.40	1.40	1.85	2.15	3.25	2.40	1.50	0.90	1.10	1.40	1.70	1.70
8	1.40	1.40	1.85	2.40	3.05	2.40	1.50	0.80	1.10	1.40	1.70	1.70
9	1.50	1.40	1.75	2.40	2.95	2.40	1.50	0.80	1.10	1.40	1.70	1.70
10	1.50	1.40	1.60	2.45	2.85	2.25	1.50	0.80	1.10	1.40	1.70	1.70
11	1.50	1.40	1.65	2.55	2.95	2.00	1.40	0.80	1.20	1.40	1.70	1.70
12	1.50	1.40	1.55	2.60	3.15	2.00	1.40	0.80	1.20	1.40	1.70	1.70
13	1.50	1.40	1.55	2.70	3.35	1.90	1.40	0.80	1.20	1.40	1.70	1.70
14	1.50	1.40	1.55	2.70	3.55	1.80	1.40	0.95	1.20	1.40	1.70	1.70
15	1.50	1.40	1.55	2.70	3.05	1.65	1.40	1.00	1.20	1.40	1.70	1.70
16	1.40	1.40	1.55	2.75	3.75	1.60	1.40	1.00	1.20	1.50	1.70	1.70
17	1.40	1.40	1.55	2.90	3.65	1.50	1.40	1.00	1.20	1.50	1.70	1.70
18	1.40	1.40	1.55	3.00	3.60	1.50	1.40	1.00	1.30	1.50	1.70	1.70
19	1.40	1.40	1.60	3.15	3.60	1.50	1.40	1.00	1.30	1.50	1.70	1.70
20	1.40	1.55	1.60	3.35	3.60	1.70	1.40	1.00	1.30	1.60	1.70	1.70
21	1.40	1.65	1.60	3.65	3.45	2.10	1.40	1.00	1.30	1.50	1.70	1.70
22	1.40	1.75	1.60	3.80	3.40	2.50	1.40	1.00	1.30	1.50	1.70	1.70
23	1.40	1.80	1.60	3.75	3.25	2.80	1.40	1.00	1.30	1.60	1.70	1.70
24	1.40	1.80	1.60	3.70	3.15	2.80	1.40	1.00	1.30	1.60	1.70	1.70
25	1.40	1.80	1.60	3.70	3.00	2.45	1.40	1.00	1.30	1.60	1.70	1.70
26	1.40	1.80	1.60	3.70	2.95	2.40	1.30	1.00	1.30	1.60	1.70	1.70
27	1.40	1.80	1.60	3.70	2.80	2.40	1.30	1.00	1.30	1.60	1.80	1.70
28	1.40	1.80	1.60	3.70	2.70	2.25	1.30	1.00	1.30	1.60	1.90	1.70
29	1.40	-----	1.60	3.70	2.70	2.00	1.30	1.10	1.30	1.60	2.10	1.70
30	1.40	-----	1.65	3.70	2.65	2.00	1.30	1.10	1.30	1.70	2.00	1.70
31	1.40	-----	1.70	-----	2.55	-----	1.20	1.10	-----	1.70	-----	1.70

ESTIMATED MONTHLY DISCHARGE  
Of Weber River, near Uinta, Utah, for 1898.  
(Drainage area, 1,000 square miles.)

Month.	Discharge in Second-Feet.			Total in Acre-Feet.	Run-Off.	
	Maximum	Minimum	Mean		Sec.-ft. per Sq. mile.	Depth in Inches.
January	310	200	271	10,003	0.17	0.20
February	473	200	320	17,772	0.20	0.21
March	510	335	302	24,103	0.25	0.20
April	2,118	415	1,320	70,081	0.83	0.02
May	2,000	1,010	1,000	98,750	1.00	1.15
June	1,240	310	752	44,747	0.47	0.53
July	620	105	201	17,892	0.18	0.21
August	145	95	92	5,057	0.00	0.07
September	210	125	171	10,175	0.11	0.12
October	415	210	302	18,500	0.10	0.22
November	905	415	439	20,122	0.27	0.30
December	445	415	410	25,620	0.26	0.30
The year	2,118	95	532	385,110	0.33	4.52

DISCHARGE MEASUREMENTS  
Of Weber River, near Uinta, Utah, in 1899.

Date.	Hydrographer.	Gage height,	Discharge.
		Feet.	Second-feet.
May 3	W. B. Dougall and J. S. Baker	3.20	1,857
May 6	do	3.30	1,969
July 1	do	4.10	2,582
July 10	do	2.80	1,284

DAILY GAGE HEIGHT  
Of Weber River, near Uinta, Utah, for 1899.

Day.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
1	1.70	1.70	1.80	2.80	4.60	4.60	4.10	1.70	1.00	1.50	—	—
2	1.70	1.70	1.80	2.80	4.75	4.75	4.00	1.70	1.50	1.50	—	—
3	1.70	1.70	1.80	2.80	5.00	4.80	3.05	1.70	1.50	1.50	—	—
4	1.70	1.70	1.80	3.05	5.15	5.05	3.50	1.70	1.50	1.50	—	—
5	1.70	1.70	1.80	3.30	5.50	5.25	3.50	1.70	1.50	1.50	—	—
6	1.70	1.70	1.80	3.50	5.75	5.50	3.30	1.70	1.50	1.50	—	—
7	1.70	1.70	1.80	3.60	5.75	5.80	3.20	1.70	1.50	1.50	—	—
8	1.70	1.70	1.80	3.75	5.55	5.80	3.00	1.70	1.50	1.50	—	—
9	1.70	1.70	1.80	3.90	5.55	5.80	2.80	1.70	1.50	1.60	—	—
10	1.70	1.70	1.80	4.15	5.00	5.85	2.80	1.70	1.50	1.65	—	—
11	1.70	1.70	1.80	4.85	6.30	5.95	2.70	1.70	1.50	1.70	—	—
12	1.70	1.80	1.80	5.00	6.50	6.25	2.60	1.70	1.50	1.75	—	—
13	1.70	1.80	1.80	5.10	6.35	6.30	2.60	1.80	1.50	1.80	—	—
14	1.70	1.80	1.80	5.15	6.00	5.85	2.60	1.70	1.60	1.80	—	—
15	1.70	1.80	1.80	4.95	5.50	5.35	2.50	1.70	1.50	1.80	—	—
16	1.70	1.80	1.80	4.80	5.05	5.25	2.50	1.60	1.50	*	—	—
17	1.70	1.80	1.80	4.75	4.05	5.40	2.45	1.60	1.50	—	—	—
18	1.70	1.80	1.00	3.00	4.40	5.50	2.30	1.60	1.50	—	—	—
19	1.70	1.80	1.00	4.00	4.30	5.80	2.30	1.60	1.60	—	—	—
20	1.70	1.80	1.00	3.50	4.30	4.16	2.30	1.60	1.50	—	—	—
21	1.70	1.80	1.00	3.10	4.55	3.30	2.20	1.60	1.60	—	—	—
22	1.70	1.80	1.00	3.10	4.70	5.15	2.00	1.60	1.50	—	—	—
23	1.70	1.80	2.10	4.80	4.85	4.80	2.00	1.60	1.50	—	—	—
24	1.70	1.80	2.50	5.15	4.80	4.65	1.60	1.60	1.60	—	—	—
25	1.70	1.80	3.15	5.35	5.15	4.60	1.80	1.60	1.50	—	—	—
26	1.70	1.80	3.10	5.00	5.30	4.35	1.80	1.60	1.50	—	—	—
27	1.70	1.80	2.85	4.30	5.25	4.35	1.80	1.60	1.60	—	—	—
28	1.70	1.80	2.80	4.30	4.05	4.20	1.70	1.60	1.60	—	—	—
29	1.70	2.80	4.30	4.05	4.20	1.70	1.60	1.60	1.60	—	—	—
30	1.70	2.80	4.45	4.00	4.20	1.70	1.60	1.60	1.60	—	—	—
31	1.70	2.80	4.60	4.00	4.70	1.70	1.60	1.60	1.60	—	—	—

\*Discontinued.

**ESTIMATED MONTHLY DISCHARGE  
Of Weber River, near Uinta, Utah, for 1899.  
(Drainage area, 1,600 square miles.)**

Month.	Discharge in Second-Feet.			Total in Acre-Feet	Run-Off.	
	Maximum	Minimum	Mean.		Sec.-ft. per Sq. mile.	Depth in Inches.
January -----	445	445	445	27,362	0.28	0.32
February -----	520	445	491	27,269	0.31	0.32
March -----	1,721	520	780	47,060	0.49	0.56
April -----	3,723	1,403	2,042	157,210	1.05	1.84
May -----	4,770	2,768	3,556	218,650	2.22	2.56
June -----	4,588	2,077	3,693	210,749	2.31	2.58
July -----	2,586	445	1,183	72,740	0.74	0.85
August -----	445	375	412	25,333	0.26	0.30
September -----	375	320	322	10,160	0.20	0.22
October -----	520	320	393	24,165	0.25	0.29

**DISCHARGE MEASUREMENTS  
Of Weber River, near Uinta, Utah, in 1899.**

Date.	Hydrographer.	Gage height, Feet.	Discharge,
			Second-feet.
July 16 -----		1.15	70
August 22 -----		1.05	75
September 20 -----		1.35	152
October 22 -----		1.70	401
November 12 -----		1.73	420
December 20 -----		1.50	356

**DAILY GAGE HEIGHT**  
Of Weber River, near Uinta, Utah, for 1900.

Day.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
1.....								1.40	1.10	1.30	1.70	1.60
2.....								1.20	1.10	1.30	1.70	1.50
3.....								1.15	1.10	1.30	1.70	1.50
4.....								1.10	1.10	1.30	1.70	1.50
5.....								1.15	1.10	1.30	1.70	1.50
6.....								1.20	1.10	1.30	1.70	1.50
7.....								1.20	1.10	1.30	1.60	1.50
8.....								1.20	1.10	1.30	1.60	1.50
9.....								1.20	1.20	1.30	1.60	1.50
10.....								1.20	1.20	1.30	1.60	1.50
11.....								1.20	1.20	1.30	1.60	1.60
12.....								1.20	1.20	1.30	1.60	1.50
13.....								1.20	1.20	1.30	1.60	1.60
14.....								1.20	1.20	1.30	1.50	1.60
15.....								1.20	1.20	1.35	1.50	1.50
16.....								1.10	1.20	1.20	1.60	1.50
17.....								1.10	1.20	1.20	1.70	1.50
18.....								1.10	1.20	1.20	1.80	1.50
19.....								1.10	1.20	1.25	1.60	1.60
20.....								1.10	1.20	1.30	1.60	1.50
21.....								1.10	1.20	1.30	1.60	1.60
22.....								1.10	1.20	1.30	1.05	2.50
23.....								1.10	1.20	1.30	1.70	2.50
24.....								1.10	1.20	1.30	1.70	2.45
25.....								1.10	1.20	1.30	1.70	2.20
26.....								1.10	1.10	1.30	1.70	1.75
27.....								1.10	1.10	1.30	1.70	1.60
28.....								1.10	1.10	1.30	1.70	1.60
29.....								1.25	1.10	1.30	1.70	1.60
30.....								1.30	1.10	1.30	1.70	1.60
31.....								1.40	1.10	1.70	1.70	-----

**ESTIMATED MONTHLY DISCHARGE**  
Of Weber River, near Uinta, Utah, for 1900.  
(Drainage area, 1,600 square miles).

Month.	Discharge in Second-Feet.			Total in Aero-Feet	Run-Off	
	Maximum	Minimum	Mean		Sec.-ft. per Sq. mile	Depth in Inches
July 16-31	255	75	90	6,097	0.06	0.07
August	255	75	123	7,563	0.08	0.09
September	105	75	142	8,450	0.00	0.10
October	435	105	207	18,262	0.10	0.22
November	915	315	484	28,800	0.30	0.33
Dec. (17 days)	375	315	340	10,014	0.20	0.23

**DISCHARGE MEASUREMENTS**  
Of Weber River, near Uinta, Utah, in 1901

Date.	Hydrographer.	Gage height.	Discharge.
		Feet.	Second-feet
January 28	G. L. Swendsen	1.55	322
February 22	do	2.80	1,082
March 18	do	2.20	668
January 28	do	1.70	350
July 25	do	1.20	141
September 13	do	1.41	172
March 18	do	1.35	143

**DAILY GAGE HEIGHT**  
Of Weber River, near Uinta, Utah, for 1901.

Day.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
1	1.50	1.50	3.00	1.00	4.25	3.00	1.70	1.20	1.40	1.50	—	—
2	1.50	1.50	3.00	1.00	4.40	3.00	1.70	1.20	1.40	1.50	—	—
3	1.50	1.50	3.35	1.00	4.05	2.05	1.70	1.20	1.40	1.50	—	—
4	1.50	1.50	2.00	2.05	4.70	2.75	1.60	1.20	1.40	1.50	—	—
5	1.50	1.50	2.35	1.05	4.70	2.00	1.50	1.20	1.40	1.50	—	—
6	1.50	1.50	2.35	1.00	4.50	2.65	1.50	1.20	1.40	1.50	—	—
7	1.50	1.50	2.40	1.00	4.10	2.50	1.50	1.20	1.40	1.50	—	—
8	1.50	1.50	2.35	1.00	3.00	2.50	1.50	1.00	1.40	1.50	—	—
9	1.50	1.50	2.05	2.00	3.05	2.45	1.50	1.00	1.40	1.50	—	—
10	1.50	1.50	2.00	2.10	4.20	2.10	1.50	1.50	1.40	1.50	—	—
11	1.50	1.50	2.05	2.10	4.25	2.40	1.40	1.50	1.40	1.50	—	—
12	1.50	1.50	2.05	2.20	4.35	2.40	1.40	1.50	1.40	1.50	—	—
13	1.50	1.50	1.95	2.20	4.50	2.30	1.40	1.40	1.10	1.50	—	—
14	1.50	1.50	1.90	2.20	4.50	2.10	1.40	1.40	1.40	1.50	—	—
15	1.50	1.50	1.90	2.30	4.50	2.05	1.40	1.40	1.40	1.50	—	—
16	1.50	1.85	1.00	2.40	4.50	2.50	1.40	1.40	1.40	1.50	—	—
17	1.50	2.15	2.05	2.45	4.50	2.50	1.40	1.40	1.40	1.50	—	—
18	1.50	2.30	2.10	2.50	4.50	2.50	1.40	1.40	1.40	1.50	—	—
19	1.50	2.80	2.10	2.60	4.50	2.50	1.40	1.40	1.40	1.50	—	—
20	1.50	2.85	2.00	2.60	4.35	2.50	1.30	1.40	1.40	1.50	—	—
21	1.50	3.50	2.00	2.05	4.10	2.50	1.30	1.40	1.40	1.50	—	—
22	1.50	2.80	1.00	2.00	4.00	2.00	1.30	1.40	1.40	1.50	—	—
23	1.50	2.60	2.00	2.20	3.85	1.00	1.30	1.40	1.40	1.50	—	—
24	1.50	2.80	1.00	3.35	3.05	1.00	1.30	1.40	1.40	1.50	—	—
25	1.50	3.35	1.00	3.40	3.00	1.00	1.30	1.00	1.40	1.50	—	—
26	1.50	3.50	1.00	3.40	3.45	1.00	1.20	1.30	1.40	1.50	—	—
27	1.50	3.50	1.00	3.00	3.35	1.00	1.20	1.00	1.40	1.00	—	—
28	1.50	3.00	1.00	3.75	3.20	1.80	1.20	1.00	1.40	1.00	—	—
29	1.50	—	1.00	3.85	3.05	1.80	1.20	1.00	1.40	1.00	—	—
30	1.50	—	1.00	4.03	3.00	1.80	1.20	1.00	1.40	1.00	—	—
31	1.50	—	1.00	—	3.00	—	1.20	1.50	—	1.30	—	—

**ESTIMATED MONTHLY DISCHARGE  
Of Weber River, near Uinta, Utah, for 1901.  
(Drainage area, 1,000 square miles).**

Month.	Discharge in Second-Feet.			Total in Acre-Feet.	Run-Off.	
	Maximum	Minimum	Mean		Sec.-ft. per Sq. mile.	Depth in Inches.
January	263	263	263	15,171	0.16	0.18
February	1,655	263	681	37,821	0.43	0.45
March	1,865	500	707	43,472	0.44	0.51
April	1,970	500	948	50,410	0.59	0.66
May	2,425	1,235	1,981	121,807	1.24	1.43
June	1,235	440	712	42,307	0.45	0.50
July	380	110	207	12,728	0.13	0.15
August	320	110	200	12,297	0.13	0.15
September	210	210	210	12,496	0.13	0.15
October	320	263	272	10,725	0.17	0.20

**DISCHARGE MEASUREMENTS  
Of Weber River, near Uinta, Utah, in 1902.**

Date.	Hydrographer.	Gage height,	Discharge,	
			Feet.	Second-feet.
January 20	G. L. Swendsen	1.48	113	
February 10	do	1.30	121	
April 12	do	1.52	100	
May 12	do	1.75	339	
September 22	do	1.22	79	
October 20	do	1.10	102	
December 28	do	1.35	112	

**DISCHARGE MEASUREMENTS  
Of Weber River, near Uinta, Utah, in 1903.**

Date.	Hydrographer.	Gage height,	Discharge,	
			Feet.	Second-feet.
January 12	G. L. Swendsen	1.11	124	
April 13	do	2.50	621	
May 18	do	3.10	677	

MEAN DAILY GAGE HEIGHT  
In feet, of Weber River, near Uinta, Utah, for 1903.

Day.	Mar.	Apr.	May	June	July	Day.	Mar.	Apr.	May	June	July
1		4.10	2.80	3.70	2.40	17		2.60	3.40	3.55	
2		3.80	2.90	3.90	2.30	18		2.50	3.40	3.45	
3		3.10	3.00	4.10	2.20	19		2.60	3.30	3.45	
4		2.70	3.10	4.20	2.20	20		2.60	3.10	3.35	
5		2.60	3.20	4.20	2.20	21		2.70	3.20	3.20	
6		2.50	3.30	4.10	2.10	22		2.80	3.20	3.10	
7		2.50	3.30	4.05	2.00	23		2.90	3.10	3.00	
8		2.60	3.30	4.05	2.00	24		3.00	3.20	2.90	
9		3.10	3.20	4.05	1.90	25		3.10	3.20	2.75	
10		2.90	3.20	4.05	1.90	26		3.20	3.20	2.65	
11		2.80	3.10	3.65	1.80	27		3.40	3.40	2.55	
12		2.60	3.00	3.80	—	28		3.30	3.40	2.50	
13		2.50	3.10	3.65	—	29		3.10	3.40	2.50	
14		2.50	3.30	3.55	—	30		3.50	2.90	3.40	2.40
15		2.60	3.30	3.55	—	31		4.30	—	3.50	—
16		2.70	3.30	3.45	—						

PRECIPITATION  
At Park City, Utah, in drainage basin of Weber River.

Year.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.	Ann.
1890			3.02	3.83	4.22	0.00	0.71	0.05	0.13	0.70	2.25	0.90	
1897	1.70	5.50	8.00	1.50	0.08	0.39	0.15	0.15	0.28	0.28	—	—	
1898	—	—	—	—	—	—	—	—	—	—	—	—	
1899	—	—	—	—	—	—	—	—	—	—	—	—	1.80
1900	0.93	1.87	0.38	3.50	0.30	0.00	0.10	0.32	2.23	0.90	0.00	1.30	15.30
1901	2.24	2.35	3.15	1.92	1.60	0.20	0.00	1.40	0.45	0.18	3.50	2.20	17.80
1902	1.98	1.18	4.04	1.90	0.67	—	—	—	—	—	—	1.40	—
1903	3.88	1.31	2.60	0.95	2.80	0.00	—	—	1.17	1.10	2.47	1.45	—
1904	2.15	5.00	7.85	1.69	2.44	—	—	1.90	—	—	—	—	—
1905	—	—	—	—	—	0.30	—	—	—	—	—	—	—
1906	4.58	—	—	—	—	—	—	—	—	—	—	—	2.12
Mean	2.10	2.88	4.15	2.20	1.72	0.16	0.47	0.78	0.85	0.63	2.10	1.03	20.00

PRECIPITATION  
At Henefer, in drainage basin of Weber River.

Year.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.	Ann.
1900	1.71	2.04	0.35	1.20	0.88	0.20	0.05	0.50	2.00	1.82	3.13	0.43	11.43
1901	1.12	2.03	2.02	1.51	2.07	0.12	0.27	2.08	0.72	1.32	1.05	1.08	10.01
1902	1.30	1.80	1.80	2.00	1.40	0.43	0.47	0.12	0.80	0.52	1.51	1.01	14.18
1903	2.01	1.23	1.03	1.11	1.78	0.13	0.40	0.13	0.93	0.97	3.27	1.23	10.02
1904	2.03	3.17	4.01	0.93	2.67	0.38	0.59	1.30	0.00	1.20	0.00	1.57	18.55
1905	1.00	1.97	1.07	2.45	1.14	0.22	0.08	0.03	1.92	0.80	1.11	1.16	14.30
1906	0.40	1.00	3.73	1.32	3.78	1.81	0.20	2.07	0.50	0.10	2.43	1.80	23.37
Mean	1.03	2.03	2.31	1.53	1.00	0.50	0.43	1.04	0.03	0.00	1.70	1.30	16.79

PRECIPITATION  
At Morgan, in drainage basin of Weber River.

Year.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.	Ann.
1903 -----	4.60	0.86	1.14	0.81	2.24	0.09	0.18	0.10	0.98	2.72	3.01	0.03	17.76
1904 -----	2.80	2.96	5.07	0.91	3.66	0.22	0.86	1.27	0.02	1.18	0.00	1.47	19.70
1905 -----	0.84	1.29	2.45	1.38	1.69	0.51	0.65	0.36	1.30	0.78	1.34	1.02	13.70
1906 -----	2.78	1.65	2.95	1.82	3.86	*0.27	0.11	4.57	0.91	0.20	2.71	1.81	23.61
Mean -----	2.75	1.69	2.90	1.23	2.89	0.27	0.45	1.58	0.82	1.22	1.78	1.44	18.70

\*Missing. Mean value inserted.

### Ogden River, near Ogden, Utah.

This station on the Ogden River was located at a point near the "Powder Mill Dam," observations being made during the years 1889-1890 and 1895-1899, inclusive. The dam was washed out June 22, 1899, after which the record was discontinued.

ESTIMATED MONTHLY DISCHARGE  
Of Ogden River, at Powder Mills, Utah, for 1889.  
(Drainage area, 360 square miles.)

Month,	Discharge in Second-Feet.			Total in Acre-Feet	Run-Off.	
	Maximum	Minimum	Mean		Sec.-ft. per Sq. mile.	Depth in Inches.
August 31	60	40	50	3,075	0.14	0.16
September	70	50	52	3,004	0.14	0.16
October	145	70	89	5,473	0.24	0.28
November	253	60	105	6,247	0.29	0.33
December	735	145	421	25,801	1.17	1.35

ESTIMATED MONTHLY DISCHARGE  
Of Ogden River, near Ogden, Utah, for 1890.  
(Drainage area, 360 square miles.)

Month,	Discharge in Second-Feet.			Total in Acre-Feet	Run-Off.	
	Maximum	Minimum	Mean		Sec.-ft. per Sq. mile.	Depth in Inches.
January	510	280	382	23,403	1.00	1.22
February	1,364	300	680	37,740	1.80	1.97
March	1,401	302	978	60,147	2.72	3.13
April	1,910	1,068	1,440	86,215	4.02	4.40
May	2,178	1,475	1,818	111,807	5.05	5.82
June	1,438	624	910	51,145	2.53	2.82
July	624	326	468	28,107	1.27	1.47
August	473	715	312	19,188	0.80	1.00
September	235	105	200	12,200	0.57	0.61
October	320	215	265	10,200	0.71	0.85
November	207	235	205	15,180	0.71	0.70
December			210	14,760	0.07	0.77
The year				470,302	1.81	24.07

DISCHARGE MEASUREMENTS  
Of Ogden River, near Ogden, Utah, in 1895.

Date,	Hydrographer,	Gage height, Feet.	Discharge, Second-feet	
			do.	do.
June 13	J. L. Rhead	2.02	150	
September 13	S. Fortier	1.45	57	
October 11	do.	1.63	73	
November 11	do.	1.55	71	

**DAILY GAGE HEIGHT  
OF Ogden River, near Ogden, Utah, for 1895.**

Day.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	
1							1.80	1.45	1.40	1.49	1.53	1.56	
2							1.80	1.50	1.40	1.49	1.53	1.53	
3							1.80	1.50	1.40	1.50	1.53	1.52	
4							1.80	1.50	1.40	1.53	1.61	1.54	
5							1.80	1.50	1.40	1.53	1.59	1.57	
6							1.80	1.50	1.40	1.53	1.56	1.55	
7							1.80	1.50	1.45	1.53	1.56	1.51	
8							1.75	1.50	1.45	1.52	1.56	1.52	
9							1.75	1.50	1.46	1.52	1.55	1.53	
10							1.70	1.50	1.46	1.52	1.55	1.52	
11							1.65	1.45	1.45	1.52	1.55	1.48	
12							1.70	1.45	1.44	1.52	1.55	1.48	
13							1.75	1.40	1.43	1.52	1.57	1.48	
14							1.90	1.70	1.40	1.43	1.52	1.57	1.48
15							1.85	1.65	1.40	1.44	1.52	1.57	1.48
16							1.85	1.65	1.40	1.42	1.52	1.57	1.48
17							1.85	1.60	1.45	1.40	1.52	1.57	1.49
18							1.85	1.60	1.40	1.40	1.52	1.57	1.50
19							1.80	1.60	1.40	1.45	1.52	1.57	1.50
20							1.80	1.60	1.40	1.48	1.52	1.50	1.50
21							1.75	1.55	1.40	1.51	1.52	1.50	1.50
22							1.75	1.55	1.45	1.50	1.52	1.55	1.50
23							1.75	1.50	1.45	1.50	1.52	1.55	1.49
24							1.70	1.50	1.45	1.50	1.52	1.55	1.49
25							1.70	1.50	1.40	1.50	1.52	1.55	1.49
26							1.70	1.45	1.40	1.48	1.52	1.53	1.49
27							1.70	1.45	1.40	1.48	1.52	1.55	1.49
28							1.70	1.45	1.40	1.48	1.52	1.56	1.49
29							1.70	1.45	1.40	1.48	1.53	1.56	1.48
30							1.70	1.45	1.40	1.48	1.53	1.56	1.48
31							1.45	1.40		1.53		1.40	

**ESTIMATED MONTHLY DISCHARGE  
OF Ogden River, near Ogden, Utah, for 1895.  
(Drainage area, 300 square miles.)**

Month.	Discharge in Second-Feet.			Total in Acre-Feet.	Run-Off	
	Maximum	Minimum	Mean		Sec. ft. per Sq. mile.	Depth in Inches.
June	154	94	108	6,120	0.30	0.33
July	111	57	84	5,161	0.23	0.27
August	63	52	56	3,443	0.10	0.18
September	61	52	57	3,302	0.10	0.18
October	67	62	66	4,058	0.18	0.21
November	73	67	71	4,225	0.20	0.22
December	73	48	73	4,089	0.20	0.23

DISCHARGE MEASUREMENTS.  
Of Ogden River, near Ogden, Utah, in 1896.

Date.	Hydrographer.	Gage height.	Discharge.
		Feet.	Second feet.
August 22	S. Stessens	5.33	988
July 8	do	5.36	149
August 20	do	5.57	78
August 21	J. L. Rhead	5.61	101
September 8	S. Fortier	5.63	89
September 18	J. L. Rhead	5.60	89
December 29	S. Fortier	5.63	94

DAILY GAGE HEIGHT  
Of Ogden River, near Ogden, Utah, for 1896.

Day.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
1	1.48	1.07	1.70	3.11	5.50	10.30	2.35	1.85	1.61	1.61	1.62	—
2	1.49	1.07	1.70	—	5.00	10.20	2.25	1.80	1.60	1.60	1.63	—
3	1.54	1.04	1.08	3.15	5.00	10.20	2.20	1.80	1.60	1.60	1.63	1.60
4	1.54	1.02	—	—	6.20	9.70	2.20	1.80	1.60	1.60	1.63	—
5	1.52	1.02	1.05	—	7.00	8.00	2.10	1.70	1.60	1.60	1.63	—
6	1.50	1.02	—	3.00	7.50	8.00	2.13	1.75	1.61	1.60	1.63	—
7	1.40	1.03	—	—	6.80	8.00	2.15	1.73	1.61	1.60	1.63	—
8	1.43	1.07	1.05	4.00	6.10	7.50	2.00	1.70	1.62	1.60	1.63	—
9	1.45	1.70	—	—	6.70	6.00	1.90	1.60	1.61	1.60	2.45	—
10	1.44	1.70	—	—	6.30	6.70	1.93	1.65	1.61	1.60	2.00	1.00
11	1.45	1.70	1.00	—	5.80	6.00	1.90	1.63	1.65	1.60	1.83	—
12	1.45	1.09	—	3.80	6.20	5.50	1.80	1.63	1.65	1.60	1.80	—
13	1.45	1.00	—	—	5.65	5.20	1.95	1.62	1.65	1.60	1.78	—
14	1.45	1.07	1.05	8.50	5.45	4.90	2.00	1.60	1.65	1.60	1.77	—
15	1.46	1.04	—	—	5.20	4.70	2.10	1.60	1.64	1.60	1.70	—
16	1.48	1.03	—	—	4.80	4.40	2.00	1.60	1.61	1.60	1.71	1.65
17	1.51	1.01	1.07	5.30	4.85	4.10	2.00	1.60	1.63	1.60	1.73	—
18	1.00	1.01	—	6.20	4.65	4.00	1.95	1.60	1.60	1.60	1.77	—
19	1.71	1.01	—	4.80	4.60	3.80	1.90	1.57	1.60	1.60	1.70	—
20	1.00	1.02	—	4.50	4.50	3.50	1.85	1.61	1.60	1.60	1.75	—
21	1.80	1.02	1.85	4.35	4.70	3.25	1.85	1.61	1.60	1.60	1.75	—
22	2.00	1.02	—	4.50	5.60	3.15	1.85	1.63	1.61	1.60	—	—
23	1.85	1.03	2.80	4.40	7.30	2.90	1.85	1.63	1.61	1.60	—	1.00
24	1.80	1.03	—	4.50	8.00	2.70	1.85	1.63	1.62	1.60	—	—
25	1.73	1.01	—	5.20	8.50	2.55	1.85	1.63	1.61	1.60	—	—
26	1.73	1.01	4.50	0.20	6.20	2.55	1.85	1.62	1.61	1.60	—	—
27	1.71	1.03	7.50	0.50	10.00	2.88	1.80	1.62	1.60	1.61	—	—
28	1.70	1.70	5.70	5.60	10.50	2.48	1.78	1.61	1.60	1.62	—	—
29	1.68	4.70	—	5.40	10.50	2.38	1.75	1.62	1.61	1.62	1.50	—
30	1.68	—	4.15	0.10	11.20	2.30	1.80	1.62	1.61	1.62	1.50	—
31	1.67	—	—	—	11.00	—	1.60	1.61	—	1.62	—	2.00

**ESTIMATED MONTHLY DISCHARGE  
Of Ogden River, near Ogden, Utah, for 1896.  
(Drainage area, 300 square miles.)**

Month.	Discharge in Second-Feet.			Total in Acre-Feet.	Run-Off.	
	Maximum	Minimum.	Mean.		Sec.-ft. per Sq. mile.	Depth in Inches.
January	140	58	83	5,101	0.23	0.26
February	95	82	87	5,003	0.24	0.26
March	1,240	95	230	14,142	0.61	0.74
June 11-30	940	200	475	18,843	1.32	0.98
July	220	110	141	8,079	0.39	0.45
August	125	82	90	5,531	0.25	0.20
September	95	82	84	4,008	0.23	0.26
October	82	70	82	5,042	0.23	0.26
November	240	82	95	5,053	0.26	0.29
December	260	-	91	5,505	0.25	0.29

**DISCHARGE MEASUREMENTS  
Of Ogden River, near Ogden, Utah, in 1897.**

Date.	Hydrographer.	Gage height,	Discharge,
			Feet.      Second-feet.
May 11	S. Fortler and W. B. Dougall.	0.60	1,890
May 20	do	5.70	1,423
June 2	do	4.70	682
June 26	do	3.25	170
July 30	do	2.80	71
September 15	do	2.01	51
October 15	do	2.08	78

**DAILY GAGE HEIGHT**  
Of Ogden River, near Ogden, Utah, for 1897.

Day.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
1						4.00	3.60	2.70	2.00	2.80	2.70	2.70
2						4.80	3.50	2.70	2.00	2.70	2.70	2.70
3						4.70	3.40	2.70	2.70	2.70	2.70	2.70
4						4.50	3.30	2.60	2.60	2.70	2.70	2.60
5						4.50	3.30	2.60	2.60	2.60	2.80	2.60
6						4.40	3.30	2.60	2.60	2.70	2.70	2.60
7	3.45					4.40	3.20	2.60	2.60	2.70	2.70	2.60
8						4.40	3.20	2.60	2.60	2.70	2.70	2.60
9						4.30	3.20	2.60	2.60	2.70	2.70	2.70
10						0.70	4.20	3.10	2.60	2.60	2.70	2.60
11						0.70	4.10	3.00	2.60	2.60	2.70	2.60
12						0.50	4.00	3.00	2.60	2.60	2.80	2.70
13						0.60	3.00	3.00	2.60	2.70	2.70	2.60
14	2.80					0.80	3.00	2.90	2.60	2.60	2.80	2.70
15						7.10	3.80	2.90	2.60	2.60	2.80	2.70
16						6.80	4.10	2.90	2.60	2.60	2.70	2.60
17						6.50	3.90	2.90	2.60	2.60	2.70	2.60
18						6.40	3.90	2.90	2.60	2.60	2.70	2.50
19						6.50	3.90	2.90	2.60	2.60	2.70	2.50
20						7.10	3.00	2.90	2.60	2.60	2.70	2.60
21						6.80	3.00	2.90	2.60	2.60	2.70	2.40
22	3.00					6.40	3.80	2.90	2.60	2.60	2.70	2.50
23						0.20	3.70	2.80	2.60	2.60	2.70	2.40
24						0.10	3.00	2.80	2.60	2.60	2.80	2.50
25						5.90	3.50	2.80	2.60	2.60	2.70	2.40
26						5.80	3.50	2.80	2.60	2.60	2.70	2.30
27	2.70					5.50	3.40	2.80	2.60	2.60	2.70	2.30
28						5.20	3.40	2.70	2.60	2.60	2.70	2.60
29						5.10	3.40	2.70	2.60	2.60	2.70	2.60
30						5.00	3.60	2.70	2.60	2.60	2.70	2.60
31						5.00	-----	2.70	2.60	2.70	-----	2.60

**ESTIMATED MONTHLY DISCHARGE**  
Of Ogden River, near Ogden, Utah, for 1897.  
(Drainage area, 300 square miles.)

Month.	Discharge in Second-Feet.			Total in Acre-Feet.	Run-Off.	
	Maximum	Minimum	Mean		Sec. ft. per Sq. mile.	Depth in Inches.
May 10-31	2,433	837	1,700	77,000	4.01	4.02
June	701	203	370	22,632	1.03	1.17
July	250	70	90	5,534	0.25	0.20
August	70	55	50	3,443	0.10	0.18
September	70	55	57	3,302	0.10	0.18
October	85	55	72	4,427	0.20	0.23
November	85	55	70	4,103	0.10	0.21
December	70	30	52	3,107	0.14	0.16

**DAILY GAGE HEIGHT**  
Of Ogden River, near Ogden, Utah, for 1898.

Day.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
1	2.30	2.60	2.80	2.90	3.60	3.70	1.70	1.00	1.40	1.50	1.50	1.50
2	2.60	2.50	2.80	3.10	3.50	3.60	1.70	2.00	1.50	1.60	1.50	1.60
3	2.60	2.60	2.70	3.20	3.50	3.70	1.70	1.70	1.50	1.70	1.50	1.50
4	2.45	2.50	2.70	3.20	3.40	3.60	1.70	1.70	1.50	1.50	1.50	1.50
5	2.60	2.60	2.80	3.20	3.40	3.40	1.80	1.60	1.40	1.60	1.50	1.50
6	2.30	2.60	2.90	3.30	3.40	3.30	1.65	1.70	1.40	1.50	1.50	1.50
7	2.60	2.60	2.90	3.30	3.40	3.10	1.80	1.50	1.40	1.50	1.60	1.40
8	2.30	2.70	2.90	3.30	3.40	3.00	1.70	1.50	1.40	1.50	1.50	1.50
9	2.60	2.70	2.90	3.40	3.40	2.90	1.70	1.60	1.50	1.40	1.50	1.50
10	2.00	2.70	2.80	3.00	3.40	2.80	1.70	1.60	1.50	1.50	1.50	1.50
11	2.70	2.70	2.80	3.10	3.40	2.80	1.70	1.50	1.50	1.50	1.50	1.50
12	2.60	2.70	2.70	3.20	3.40	2.70	1.80	1.40	1.40	1.50	1.50	1.40
13	2.40	2.70	3.00	3.30	3.40	2.70	1.70	1.40	1.40	1.50	1.50	1.40
14	2.40	2.70	2.90	3.40	3.30	2.60	1.70	1.80	1.50	1.60	1.50	1.40
15	2.30	2.70	2.90	3.50	3.30	2.50	1.50	1.60	1.40	1.50	1.50	1.40
16	2.60	2.70	2.80	3.00	3.50	2.20	1.60	1.40	1.50	1.60	1.50	1.40
17	2.30	2.70	2.70	3.70	3.70	2.10	1.60	1.50	1.50	1.55	1.50	1.40
18	2.40	2.70	2.70	3.80	4.00	2.10	1.50	1.00	1.50	1.60	1.70	1.40
19	2.40	2.70	2.80	3.80	3.90	2.00	1.50	1.50	1.40	1.50	1.60	1.40
20	2.30	2.60	2.80	3.80	3.80	1.90	1.60	1.40	1.50	1.60	1.70	1.40
21	2.40	2.70	2.80	4.30	3.70	2.00	1.65	1.50	1.40	1.50	1.60	1.40
22	2.30	2.70	2.80	4.20	3.70	1.70	1.60	1.40	1.40	1.50	1.50	1.50
23	2.50	2.70	2.50	4.00	3.90	2.00	1.50	1.40	1.40	1.50	1.50	1.50
24	2.30	2.80	2.50	3.80	4.10	2.00	1.60	1.40	1.40	1.50	1.50	1.40
25	2.30	2.80	2.80	3.80	4.00	1.90	1.65	1.40	1.50	1.50	1.50	1.40
26	2.60	2.70	2.80	3.80	3.90	2.00	1.65	1.40	1.40	1.50	1.50	1.40
27	2.30	2.60	2.80	3.00	4.10	1.80	1.60	1.40	1.50	1.50	1.50	1.40
28	2.60	2.70	2.80	3.80	4.00	1.80	1.60	1.40	1.40	1.50	1.50	1.40
29	2.30	-----	2.70	3.00	3.90	1.80	1.60	1.40	1.50	1.50	1.50	1.50
30	2.00	-----	2.80	3.00	3.80	1.80	1.60	1.50	1.50	1.50	1.50	1.50
31	2.30	-----	2.80	-----	3.80	-----	1.60	1.50	-----	1.40	-----	1.40

**ESTIMATED MONTHLY DISCHARGE**  
Of Ogden River, near Ogden, Utah, for 1898.  
(Drainage area, 300 square miles.)

Month.	Discharge in Second-Feet.			Total in Acre-Feet.	Run-Off.	
	Maximum	Minimum	Mean		Sec.ft. per Sq.mile.	Depth in Inches.
January	102	56	65	3,007	0.18	0.21
February	90	67	70	4,387	0.22	0.23
March	110	67	90	5,634	0.25	0.20
April	517	102	207	16,888	0.74	0.82
May	451	187	207	18,262	0.93	0.95
June	310	36	102	0,000	0.28	0.31
July	39	32	35	2,152	0.10	0.12
August	44	30	33	2,020	0.00	0.10
September	32	30	31	1,845	0.00	0.10
October	34	30	32	1,008	0.00	0.10
November	36	32	32	1,004	0.00	0.10
December	34	30	32	1,008	0.00	0.10
The year	517	30	91	60,003	0.25	3.43

**DISCHARGE MEASUREMENTS**  
Of Ogden River, near Ogden, Utah, in 1890.

Date.	Hydrographer.	Gage height.	Discharge.
		Feet.	Second-feet.
May 2	W. B. Dougall and J. S. Baker	*1.70	1,008
May 4	do	1.25	833
June 30	do		396
July 12	do	2.38	221
August 26	do	1.25	72

\*At old Powder Mill dam.

**DAILY GAGE HEIGHT**  
Of Ogden River, near Ogden, Utah, for 1890

Day.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
1	1.40	1.50	2.50	3.80	1.90	1.40						
2	1.00	1.70	2.40	3.30	1.80	2.50						
3	1.50	1.70	2.10	3.50	1.70	2.40						
4	1.50	1.60	2.00	3.50	1.50	2.70						
5	1.50	1.50	2.10	3.80	1.50	2.80						
6	1.55	1.40	2.00	4.10	1.00	2.00						
7	1.60	1.40	2.00	4.10	2.10	2.40						
8	1.60	1.40	2.00	4.60	2.80	2.20						
9	1.50	1.40	2.00	4.50	3.20	2.20						
10	1.50	1.40	2.10	4.00	3.30	2.30						
11	1.50	1.50	1.00	4.70	3.50	2.30						
12	1.50	1.60	2.10	4.00	3.00	2.70						
13	1.40	1.60	2.10	4.25	3.00	2.60						
14	1.70	1.50	2.10	4.00	3.50	2.40						
15	1.70	1.50	2.00	3.40	3.00	1.30						
16	1.00	1.60	2.00	3.40	2.60	1.20						
17	1.70	1.00	2.00	3.10	2.60	1.40						
18	1.00	1.70	2.20	3.00	2.50	1.10						
19	1.00	1.80	2.30	2.70	2.60	1.00						
20	1.60	1.80	2.40	2.40	2.70	0.80						
21	1.70	1.00	2.00	2.30	2.40	0.70						
22	1.70	1.00	2.50	2.80	2.50	*						
23	1.50	1.80	2.00	3.00	2.00							
24	1.70	1.80	2.70	3.60	2.80							
25	1.70	1.80	4.10	3.60	2.50							
26	1.70	1.80	4.30	3.10	2.50							
27	1.70	1.80	3.00	2.80	2.40							
28	1.80	1.00	3.70	2.00	2.20							
29	1.70	-----	3.55	2.30	2.00							
30	1.70	-----	3.55	2.10	1.70							
31	1.70	-----	3.60	-----	1.60							

\*Dam washed.

**PRECIPITATION**  
At Huntsville, in drainage basin of Ogden River.

Year.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.	Ann.
1895	3.85	0.07	2.07			0.54	0.80	0.17	0.02	0.00	2.07	1.54	
1896	2.45	0.70	3.46	2.78	2.86			0.45	0.28	0.77	3.40	1.35	
1897	1.48	5.94	2.91				0.77		0.17	1.33	1.53	2.80	
1898	1.33	0.67	1.98	0.00	3.28	0.80	0.48	0.94	0.26	1.72	3.44	1.10	16.00
1899	3.96	3.09	4.39	1.54	0.65	0.19	0.17	0.53	0.16	3.86	1.33	2.10	22.08
1900	1.08	1.86	0.72	2.67	1.16	0.61	0.04	0.32	1.50	2.88	5.07	0.48	18.30
1901	1.85	2.52	1.63	0.50	2.20	0.04	0.00	1.09	0.82	1.84	0.62	1.78	14.80
1902	1.16	2.41	1.82	2.59	2.24	0.89	0.35	0.20	0.62	0.41	1.34	2.07	16.10
1903	7.72	1.61	2.01	1.33	2.03	0.21	0.22	0.46	1.88	2.13	2.30	1.23	22.13
1904	1.48	3.97	1.43	1.74	1.88	0.38	0.36	0.07	0.10	2.04	0.00	2.12	21.17
1905	1.79	1.47	2.10	2.51	2.80	0.55	0.59	1.12	1.12	0.45	1.30	0.96	10.04
1906	3.88	1.82	3.31	2.17	3.56	1.47	0.09	3.54	1.60	0.51	1.23	3.48	20.25
Mean	2.03	2.26	2.74	1.88	2.27	0.57	0.35	0.87	2.80	1.07	1.08	1.76	10.50

**PRECIPITATION**  
At Ogden, at depot, in drainage basin of Ogden River.

Year.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.	Ann.
1899	2.00	3.02	4.23	1.00	0.85	0.50	0.54	0.12	0.07	0.00	0.00	1.86	15.03
1891	1.20	2.58	3.80	1.55	2.50	2.00	0.10	0.14	2.10	0.25	0.33	3.00	20.57
1892	1.82	1.52	2.18	1.58	0.89	1.07	0.80	0.00	0.51	1.80	0.60	2.31	15.71
1893	0.05	2.72	3.10	1.03	0.05	0.05	0.08	0.78	1.30	0.74	1.20	2.11	10.03
1894	2.48	1.02	1.43	1.02	1.01	0.87	0.00	0.01	1.50	0.61	0.25	1.80	13.71
1895	2.01	0.00	2.17	0.10	1.40	1.80	0.08	0.30	0.10	0.50	0.00	1.71	0.85
1896	1.02	0.30	2.87	1.25	3.57	0.10	0.20	0.28	0.58	0.70	1.93	0.95	14.35
1897	1.80	2.85	2.37	1.47	0.30	0.08	0.47	0.00	0.89	2.13	1.51	1.80	10.03
1898	1.05	0.10	2.20	0.37	5.23	0.81	0.00	0.30	0.30	1.47	1.12	0.60	13.64
1899	1.25	1.08	2.05	0.53	0.80	0.08	0.00	0.45	0.00	2.45	0.85	1.50	13.53
1900	0.20	1.08	0.10	1.03	1.10	0.31	0.15	0.28	1.32	2.01	3.87	0.18	12.60
1901	0.71	2.03	0.45	0.62	2.30	0.22	0.00	2.05	0.87	2.12	0.30	0.83	13.80
1902	1.15	1.43	1.38	2.20	1.47	0.15	0.70	0.23	0.00	0.22	1.00	2.11	12.70
1903	3.86	0.00	1.18	0.40	0.85	0.00	0.00	0.00	0.02	0.30	0.55	0.95	9.01
1904	0.97	1.72	5.57	1.05	2.14	0.19	0.00	0.61	0.14	1.47	0.00	1.20	15.09
1905	1.22	1.02	2.03	2.14	2.90	0.82	0.03	1.01	1.10	0.23	1.51	1.00	17.00
1906	1.10	1.98	3.07	1.41	4.08	1.00	0.20	0.48	1.94	0.20	1.81	1.51	18.01
Mean	1.51	1.72	2.40	1.30	1.07	0.67	0.22	0.48	0.81	0.98	1.11	1.51	14.59

\*Missing; mean value inserted.

**PRECIPITATION**  
**At Ogden, in drainage basin of Ogden River.**  
**(Station, 1 mile east of Depot.)**

Year.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.	Ann.
1902 -----	0.90	2.39	1.16	2.70	1.60	0.27	0.82	0.34	0.21	0.42	1.36	1.96	14.12
1903 -----	4.77	0.53	1.38	1.48	4.34	0.00	0.07	0.35	0.04	1.57	1.74	0.94	18.12
1904 -----	1.46	2.79	6.54	2.34	1.06	0.52	0.03	0.55	0.09	1.78	0.00	1.47	19.53
1905 -----	1.20	1.71	3.36	2.45	4.25	0.85	0.19	1.17	1.51	0.29	0.92	1.35	19.25
1906 -----	2.12	2.41	3.65	3.17	5.63	1.47	0.44	4.11	1.30	0.00	2.78	2.03	29.71
Mean -----	2.00	1.97	3.10	2.63	3.60	0.62	0.31	1.30	0.81	0.81	1.36	1.67	21.46

### Weber River, near Plain City, Utah.

This station was established in 1903 by the State of Utah, under the direction of the State engineer, and was maintained under his direction until May 14, 1905, when it was taken up by the United States Geological Survey with the stipulation that the expense of daily gage readings should be defrayed by the State. It is located at the Plain City and West Weber highway bridge, about 10 miles west of Ogden, on the main road leading to Plain City and West Weber, below all points of diversion from and inflow to the stream.

The station is important as showing the amount of water discharged by the stream into Great Salt Lake, information necessary to the adjudication of water rights on the Ogden and Weber rivers.

Both banks are abrupt and sufficiently high to prevent overflow, except in extreme high water. The bed of the stream is composed of clay, sand, and gravel, and is comparatively smooth, but it is liable to shift during flood seasons. At normal stages the stream is sluggish, but at high water the velocity ranges from 2 to 3.5 feet per second. The discharge at this point may vary from 5,500 second-feet during the spring flood to almost nothing during summer, when the entire flow is diverted above for irrigation, that passing the station being merely seepage from the irrigated lands tributary to the stream. Information as to ice conditions is as yet indefinite.

Discharge measurements are made from the upstream side of the bridge, which is a two-span steel truss structure, with a center pier of two metallic cylindrical caissons 4 feet in diameter and filled with concrete. The floor railing of the bridge is marked at 5-foot intervals, beginning at a zero mark which is coincident with the north face of the south abutment, this being the initial point for soundings.

The upstream face of the center bridge pier is graduated to feet and tenths, marked with white paint, and forms the gage, which is read daily by David O. Wadman. No bench marks have yet been established.

DISCHARGE MEASUREMENTS  
Of Weber River, near Plain City, Utah, in 1903.

Date.	Hydrographer.	Gage height. Feet.	Discharge. Second-feet.
June 3	R. E. Kremers		2,860
June 16	do		1,333
August 11	do		0
August 11	do		3
August 25	do		4
September 1	do		1
September 9	do		6
September 15	do		22
September 22	do		34
September 29	do		25
October 7	do		117
October 16	do		141
October 24	do		151
November 6	do		169
November 20	do		387
December 4	do		287

DISCHARGE MEASUREMENTS  
Of Weber River, near Plain City, Utah, in 1904.

Date.	Hydrographer.	Gage height. Feet.	Discharge. Second-feet.
January 8	R. E. Kremers	5.00	218
April 27	do	12.65	3,004
May 13	do	10.20	5,080
June 1	do		3,093
June 10	do	0.20	1,718
June 20	do	5.70	427
July 21	do	2.80	3
August 2	do		0
August 9	do		4.5
August 10	do		4.5
September 13	do	3.00	13
October 29	do	4.85	328

**DAILY GAGE HEIGHT**  
Of Weber River, at Plain City Bridge for 1904.

Day.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
1		5.0	7.0	12.0	15.2	12.9	5.0					4.5
2		5.7	7.3	11.6	14.8	12.4	4.9					
3		5.7	7.5	10.5	13.6	12.4	4.9					
4		5.6	7.2	9.0	15.2	12.5	4.7					
5		5.6	7.8	10.2	15.0	11.8	5.0					4.5
6		5.6	7.0	10.0	15.4	11.0	5.0					4.3
7		5.8	7.2	9.6	16.4	10.4	5.0					
8		5.8	9.0	9.0	16.5	10.0	4.8					
9		5.8	10.2	9.0	15.4	9.0	4.5					4.4
10		5.8	7.5	10.0	16.2	9.6	4.0				4.8	
11		5.5	7.3	10.2	16.6	9.5	3.0				4.5	
12		5.5	8.3	11.3	16.0	9.4	2.5					
13		5.7	7.3	11.6	16.5	10.1	1.5				4.7	4.6
14		5.8	6.5	12.5	16.6	10.0	1.0					
15		5.8	6.7	13.0	10.8	9.0	1.0				4.6	
16		5.7	7.0	13.8	10.9	9.4						
17		5.8	7.5	13.8	10.6	9.0	0.7				4.6	
18		5.8	7.5	13.0	10.5	8.0	0.6					
19		5.0	8.0	13.1	10.2	8.5	0.5				4.5	4.8
20		5.5	8.3	14.0	10.1	8.6	0.4				4.5	
21		5.4	8.7	13.3	15.8	8.4				5.0		
22		0.0	8.8	13.3	10.0	8.1				5.0		5.0
23		7.0	8.8	12.0	15.1	7.8				5.0		
24		5.7	10.3	9.0	10.6	15.2	7.4					
25		5.8	12.10	8.8	11.2	10.1	7.0			5.1	4.0	5.0
26		5.7	12.7	8.0	12.0	10.4	6.8			5.1		
27		5.7	8.5	8.0	13.0	10.1	0.5			5.2	4.5	
28		5.7	8.0	8.1	14.0	15.8	0.2					
29		5.7	7.0	8.1	15.0	15.0	0.0			5.0	4.0	5.0
30		5.0		10.0		14.8	5.5				4.0	
31		5.0		10.3		13.0						

**ESTIMATED MONTHLY DISCHARGE**  
Of Weber River, near Plain City, Utah, for 1904.

Month.	Discharge in second-feet.			Total in acre-feet.
	Maximum.	Minimum.	Mean.	
January				300 18,415
February	3,410	250	993	30,800
March	2,270	600	1,018	61,110
April	4,050	1,600	3,017	181,310
May	5,030	3,610	5,018	310,300
June	3,590	405	1,732	103,000
July	325	0	90	6,085
August	0	0	0	0
September		0	10	605
October	300	20	210	12,010
November	310	250	275	10,365
December	325	220	282	17,310
The year	5,630	0	1,002	770,800

**DISCHARGE MEASUREMENTS**  
Of Weber River, near Plain City, Utah, in 1905.

Date.	Hydrographer.	Width.	Area of section.	Mean velocity.	Gage height.	Discharge.
			Square feet.	Ft. per second.	Feet.	Second-feet.
May 13	C. Tanner	127	564	2.45	8.30	1,382
May 18	W. G. Swendsen	132	789	2.40	9.30	1,894
September 8*	A. B. Larson	19	5.1	.92	2.80	4.7
November 17	W. G. Swendsen	105	110	1.04	4.00	115

\*Measurement made 100 feet below station.

**DAILY GAGE HEIGHT**  
In feet, of Weber River, near Plain City, Utah, for 1905.

Day.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
1						0.5	3.2	2.8	2.8	3.2	4.1	4.5
2	5.0					0.7	3.1	2.8	2.8	3.3	4.2	4.5
3				5.8		0.7	3.0	2.8	2.8	3.3	4.2	4.5
4				5.0	9.4	0.6	3.0	2.8	2.8	3.4	4.2	4.5
5	5.0	0.0				0.8	3.0	2.8	2.8	3.3	4.2	4.5
6	5.6			5.0		0.0	3.0	2.8	2.8	3.2	4.2	4.5
7				5.0		0.4	2.0	2.8	2.8	3.1	4.2	4.5
8	5.1	5.7			8.0	0.1	2.0	2.8	2.8	3.2	4.2	4.5
9			5.8	6.0	8.3	0.8	2.0	2.8	2.8	3.2	4.2	4.6
10						7.4	2.0	2.8	2.8	3.3	4.2	4.6
11			5.7		8.0	0.8	2.0	2.8	2.8	3.3	4.2	4.6
12	5.0	4.0		0.2		0.6	3.0	2.8	2.8	3.2	4.2	4.7
13			5.8		8.3	0.4	3.0	2.8	2.8	3.1	4.2	4.7
14		5.2			8.3	0.2	2.0	2.8	2.8	3.1	4.1	4.7
15	5.1				8.2	0.0	2.8	2.8	2.8	3.1	4.1	4.7
16	5.1				8.4	8.3	5.0	2.8	2.8	3.2	4.1	4.7
17					8.0	0.0	2.8	2.8	2.8	3.2	4.1	4.8
18	5.0	5.1			0.1	0.1	2.8	2.8	2.0	3.2	4.1	4.8
19			0.0		0.8	5.0	2.8	2.8	3.2	3.3	4.1	4.9
20	5.1	5.2		0.5	0.8	5.0	2.8	2.8	3.2	3.3	4.1	4.9
21					10.1	5.0	2.8	2.8	3.2	3.4	4.1	4.9
22			0.1		0.8	5.0	2.8	2.8	3.1	3.4	4.2	4.9
23		5.2			0.4	5.1	2.8	2.8	3.1	3.5	4.2	5.0
24					0.0	4.0	2.8	2.8	3.1	3.5	4.3	5.0
25	5.3				8.0	8.4	4.5	2.8	2.8	3.0	4.4	5.0
26			6.0		8.0	4.3	2.8	2.8	3.2	3.7	4.5	5.0
27		5.2	5.0		8.0	4.0	2.8	2.8	3.2	3.7	4.5	5.0
28					7.0	3.4	2.8	2.8	3.2	3.8	4.5	5.1
29	5.3		0.2		7.0	3.0	2.8	2.8	3.2	3.0	4.5	5.1
30					0.0	7.4	3.0	2.8	2.8	3.2	4.0	4.5
31	5.4				7.0		2.8	2.8		4.1		5.1

Note.—Stream probably frozen after December 17.

**STATION RATING TABLE**  
For Weber River, near Plain City, Utah, from Jan. 1 to December 31, 1905.

Gage height, Feet.	Discharge, Sec.-feet.	Gage height, Feet.	Discharge, Sec.-feet.	Gage height, Feet.	Discharge, Sec.-feet.	Gage height, Feet.	Discharge, Sec.-feet.
2.80	5	4.30	158	5.80	483	7.40	1,007
2.90	8	4.40	174	5.90	511	7.60	1,088
3.00	13	4.50	191	6.00	540	7.80	1,173
3.10	19	4.60	209	6.10	569	8.00	1,260
3.20	26	4.70	228	6.20	599	8.20	1,348
3.30	34	4.80	248	6.30	620	8.40	1,438
3.40	43	4.90	269	6.40	640	8.60	1,530
3.50	53	5.00	290	6.50	691	8.80	1,624
3.60	64	5.10	312	6.60	723	9.00	1,720
3.70	76	5.20	334	6.70	755	9.20	1,817
3.80	88	5.30	357	6.80	788	9.40	1,916
3.90	101	5.40	381	6.90	822	9.60	2,016
4.00	115	5.50	405	7.00	857	9.80	2,117
4.10	129	5.60	430	7.20	930	10.00	2,220
4.20	143	5.70	450				

The above table is applicable only for open-channel conditions. It is based on four discharge measurements made during 1905 and the form of the 1903-4 curve. It is well defined.

**ESTIMATED MONTHLY DISCHARGE**  
of Weber River, near Plain City, Utah, for 1906.

Month,	Discharge in second-feet.			Total in acre-feet.
	Maximum,	Minimum,	Mean,	
January	380	200	310	10,060
February	510	270	305	20,005
March	600	330	500	30,745
April	1,720	480	800	47,000
May	2,272	867	1,500	120,125
June	1,007	13	501	29,810
July	20	5	8.3	510
August	5	5	5	307
September	20	5	12.0	708
October	120	10	45.4	2,702
November	101	120	148	8,807
December	248	101	208	7,014
The year	2,272	5	410	207,633

**DISCHARGE MEASUREMENTS**  
Of Weber River, at Plain City Bridge near Plain City, Utah, in 1906.

Date.	Hydrographer.	Width.	Area of section.	Mean velocity.	Gage height.	Discharge.
		Feet.	Square feet.	Ft. per second.	Feet.	Second-feet.
March 25-----	W. G. Swendsen	123	824	*2.48	10.2	2,043
May 14 -----	H. S. Kleinschmidt	139	1,278	*2.75	13.8	3,512
June 1 -----	do	131	1,036	2.83	16.3	4,630
June 14 -----	T. Grieve, Jr.	133	1,455	2.81	14.0	4,002
June 27 -----	do	115	432	1.69	6.90	729
July 16 -----	do	93	151	0.92	4.00	139
August 11 -----	do	36	148	0.71	†2.60	10.5

\*Top velocity, 0.92.

†By wading about 300 feet below bridge.

**STATION RATING TABLE**  
For Weber River, at Plain City Bridge, near Plain City, Utah, from Jan. 1, 1906,  
to December 31, 1906.

Gage height.	Discharge.	Gage height.	Discharge.	Gage height.	Discharge.	Gage height.	Discharge.
Feet.	Sec.-feet.	Feet.	Sec.-feet.	Feet.	Sec.-feet.	Feet.	Sec.-feet.
2.00	10	0.00	035	10.00	2,220	14.40	3,830
2.80	25	0.80	700	10.80	2,300	14.00	4,020
3.00	40	7.00	700	11.00	2,380	14.80	4,020
3.20	50	7.20	810	11.20	2,460	15.00	4,110
3.40	65	7.40	900	11.40	2,550	15.20	4,190
3.60	80	7.60	960	11.60	2,610	15.40	4,280
3.80	95	7.80	1,010	11.80	2,730	15.60	4,370
4.00	115	8.00	1,120	12.00	2,810	15.80	4,460
4.20	135	8.20	1,200	12.20	2,890	16.00	4,540
4.40	160	8.40	1,280	12.40	2,970	16.20	4,620
4.60	190	8.60	1,360	12.60	3,050	16.40	4,710
4.80	220	8.80	1,440	12.80	3,140	16.60	4,800
5.00	250	9.00	1,530	13.00	3,220	16.80	4,880
5.20	290	9.20	1,620	13.20	3,300	17.00	4,960
5.40	330	9.40	1,710	13.40	3,390	17.20	5,040
5.60	370	9.60	1,800	13.60	3,480	17.40	5,130
5.80	420	9.80	1,890	13.80	3,580	17.60	5,220
6.00	465	10.00	1,960	14.00	3,660	17.80	5,310
6.20	520	10.20	2,010	14.20	3,740	18.00	5,390
6.40	563	10.40	2,130				

DAILY GAGE HEIGHT  
Of Weber River, at Plain City Bridge, Utah, for 1906.

Day.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
1	5.00	5.60	10.20	10.10	10.30	7.80	2.80	5.30	4.30	5.10	5.50	
2	5.00	5.40	9.80	9.00	16.80	7.30	2.70	5.70	4.20	5.20	5.50	
3	4.60	4.90	5.30	9.00	9.80	16.00	7.30	2.70	6.00	4.10	5.20	5.50
4	4.90	5.30	8.00	10.30	15.60	6.80	2.70	5.50	4.10	5.20	5.50	
5	4.80	5.40	8.20	12.70	15.20	6.40	2.70	5.20	4.10	5.20	5.50	
6	4.20	4.70	5.50	8.20	12.20	15.00	5.90	2.60	5.10	4.10	5.20	5.50
7	4.70	5.40	8.30	12.40	16.00	5.60	2.60	4.90	4.20	5.10	5.50	
8	4.80	5.30	9.20	12.40	15.80	5.30	2.60	4.80	4.20	5.10	5.50	
9	4.90	5.30	9.90	12.80	15.50	5.20	2.60	4.70	4.30	5.10	5.50	
10	4.30	5.00	5.50	10.60	13.00	14.70	5.10	2.60	4.50	4.30	5.10	5.50
11	4.90	5.70	10.20	13.20	14.00	4.90	2.60	4.40	4.30	5.10	5.40	
12	4.80	6.30	9.80	13.80	14.20	4.80	2.60	4.40	4.30	5.00	5.30	
13	4.90	4.80	7.40	9.10	14.40	14.40	4.50	2.60	4.30	4.30	5.00	5.20
14	4.90	6.80	9.10	13.60	14.70	4.20	2.60	4.30	4.20	5.00	5.10	
15	5.10	6.30	9.20	12.50	14.60	4.00	2.60	4.40	4.20	5.00	5.00	
16	5.30	6.10	9.80	12.20	13.80	3.90	2.60	4.50	4.30	5.00	5.00	
17	5.20	5.30	5.80	10.00	11.40	13.10	3.50	2.60	4.60	4.30	5.10	
18	5.30	5.80	11.80	10.60	12.50	3.30	2.60	4.60	4.40	5.10		
19	5.30	5.80	12.10	10.80	10.00	3.10	2.60	4.60	4.50	5.20		
20	*7.40	5.40	5.90	11.60	11.00	10.40	3.00	3.20	4.00	4.60	5.20	
21	5.50	6.00	11.00	11.00	9.70	2.00	6.70	4.60	4.70	5.30		
22	5.50	6.00	12.40	11.80	9.30	2.00	8.50	4.60	4.70	5.30		
23	5.40	7.30	13.10	11.00	8.90	2.00	8.00	4.60	4.80	5.30		
24	5.30	5.30	7.50	13.40	11.40	8.50	2.00	7.30	4.60	4.80	5.30	
25	5.30	10.7	12.50	11.30	8.30	2.80	0.20	4.00	4.80	5.30		
26	5.30	11.5	11.00	12.00	8.10	2.80	0.10	4.50	4.90	5.30		
27	5.10	5.40	11.10	10.70	12.70	8.00	2.80	5.00	4.50	4.90	5.40	
28	5.40	10.30	10.20	14.70	8.30	2.00	5.00	4.40	5.00	5.40		
29	-----	0.30	10.00	10.00	8.10	2.00	5.80	4.40	5.00	5.40		
30	-----	0.20	10.00	16.00	7.80	2.80	5.70	4.30	5.00	5.40		
31	5.40	0.40	-----	17.30	-----	2.80	5.50	-----	5.10	-----	-----	

\*Ice probably gorged.

Notes.—Observer reports ice breaking up Jan. 27, and channel clear Jan. 31. Gage heights above 15.5 are approximate except May 31 and June 1, which are from notes of H. S. Kleinschmidt.

ESTIMATED MONTHLY DISCHARGE  
Of Weber River, at Plain City Bridge, near Plain City, Utah, for 1906.

Month.	Discharge in second-feet.			Total in acre-feet.
	Maximum.	Minimum.	Mean.	
January	385	135	245	15,000
February	350	220	275	15,270
March	2,000	310	835	51,310
April	3,300	1,120	2,115	125,860
May	5,000	1,880	3,005	181,770
June	4,880	1,040	2,360	140,430
July	1,040	35	238	14,635
August	1,320	10	235	14,450
September	403	140	205	12,200
October	280	125	175	10,750
November	350	250	200	17,235
December	-----	-----	300	18,145
The year	5,000	10	857	20,400

**MONTHLY DISCHARGE**  
In thousands of acre-feet, of Weber River, at Plain City Bridge.

Year.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.	Total
1904	18.45	39.86	64.44	181.31	310.30	103.06	6.09	0	0.60	12.91	16.37	17.34	770.80
1905	19.06	21.00	30.75	47.60	129.13	29.81	0.51	0.31	0.77	2.79	8.81	7.01	297.53
1906	15.07	15.27	51.34	125.85	184.77	140.43	14.64	14.45	12.20	10.75	17.26	18.45	620.46
Mean	17.53	28.71	48.84	118.25	208.10	91.10	7.08	4.92	3.52	8.82	14.13	14.27	562.93

**MISCELLANEOUS MEASUREMENTS**  
In Weber and Malad River basins in 1904.  
(By W. D. Beers.)

Date.	Stream.	Locality.	Width Feet.	Area of sec- tion. Sq.-ft.	Mean veloc- ity. pr sec.	Dis- charge Feet Sec.-ft.
Dec. 14	Lost Creek	Near Croyden, Utah	17	10	0.81	8
Dec. 14	do	Near junct'n with Weber River	20	28	.04	26
Dec. 14	Weber River	At Devil's Slide	90	90	1.77	170
Dec. 15	do	Devil's Gate	90	107	2.07	222
May 11	Malad River	At Riverside, Utah	23	52	1.06	56

## Salt Lake City Streams.

The following tables of discharge of City Creek, Parley's Creek, Mill Creek, and Big Cottonwood Creek, are based on records furnished by L. C. Kelsey, City Engineer of Salt Lake City.

**ESTIMATED MONTHLY DISCHARGE**  
Of City Creek, near Salt Lake City, Utah, for 1890.  
(Drainage area, 19 square miles.)

Month.	Discharge in Second-Feet.			Total in Acre Feet.	Run-Off.	
	Maximum.	Minimum.	Mean.		Sec.-ft. per Sq. mile.	Depth in Inches.
January	5.5	4.5	5.	307	0.26	0.30
February	6.	3.	5.	278	0.26	0.27
March	10.5	5.	6.5	400	0.34	0.30
April	30.5	9.	22.5	1,330	1.18	1.32
May	60.5	20.5	40.5	2,491	2.13	2.45
June	122.	48.5	79.	4,700	4.16	4.03
July	48.5	17.5	29.	1,783	1.53	1.70
August	15.5	12.	13.5	830	0.71	0.82
September	13.	10.	11.5	685	0.60	0.07
October	11.	9.5	10.	615	0.53	0.01
November	11.5	8.5	9.	536	0.47	0.52
December	8.5	8.	8.5	523	0.46	0.52
<b>The year</b>	<b>122.</b>	<b>3.</b>	<b>20.0</b>	<b>14,487</b>	<b>1.05</b>	<b>14.20</b>

**ESTIMATED MONTHLY DISCHARGE**  
Of City Creek, near Salt Lake City, Utah, for 1900.  
(Drainage area, 19 square miles.)

Month.	Discharge in Second-Feet.			Total in Acre Feet.	Run-Off.	
	Maximum	Minimum	Mean		Sec.-ft. per Sq. mile.	Depth in Inches
January	10.	7.5	8.	402	0.42	0.48
February	8.	7.	7.5	417	.40	.42
March	11.	8.	9.	553	.47	.51
April	14.5	9.	11.	595	.58	.05
May	31.5	14.5	24.	1,170	1.20	1.45
June	24.5	11.5	16.	952	.84	.04
July	12.	7.5	10.	615	.53	.01
August	9.	7.	7.5	401	.40	.40
September	7.	6.	6.5	387	.34	.38
October	7.	6.5	6.5	400	.31	.30
November	7.	6.	6.5	397	.31	.38
December	6.	5.5	6.5	400	.20	.33
<b>The year</b>	<b>31.5</b>	<b>6.5</b>	<b>10.</b>	<b>7,130</b>	<b>0.52</b>	<b>7.00</b>

**ESTIMATED MONTHLY DISCHARGE**  
**Of City Creek, near Salt Lake City, Utah, for 1901.**  
 (Drainage area, 19 square miles.)

Month.	Discharge in Second-Feet.			Total in Acre Feet.	Run-Off.	
	Maximum	Minimum	Mean.		Sec.-ft. per Sq. mile.	Depth in Inches.
January -----	5.5	5.5	5.5	338	0.20	0.33
February -----	6.5	.5	5.5	305	.20	.30
March -----	7.5	6.	7.	430	.47	.43
April -----	18.	0.5	11.	654	.58	.65
May -----	72.	20.5	51.	3,136	2.08	3.09
June -----	36.	15.5	23.5	1,390	1.24	1.38
July -----	15.5	10.	12.5	769	.66	.76
August -----	10.5	7.5	9.	553	.47	.45
September -----	8.	0.5	7.	417	.37	.41
October -----	9.5	0.5	7.5	461	.40	.46
November -----	7.5	0.5	7.	417	.37	.41
December -----	7.	6.	6.5	400	.34	.39
The year --	72.	5.	12.5	9,170	0.67	9.15

**ESTIMATED MONTHLY DISCHARGE**  
**Of City Creek, near Salt Lake City, Utah, for 1902.**  
 (Drainage area, 10 square miles.)

Month.	Discharge in Second-Feet.			Total in Acre Feet.	Run-Off.	
	Maximum	Minimum	Mean.		Sec.-ft. per Sq. mile.	Depth in Inches.
January -----	7.	4.5	6.	300	.31	0.38
February -----	5.6	3.5	5.5	305	.20	.30
March -----	0.	5.5	0.	360	.31	.36
April -----	23.	0.	13.5	804	.71	.70
May -----	58.	20.	38.5	2,307	2.03	2.34
June -----	57.5	10.5	29.5	1,750	1.55	1.73
July -----	17.	10.5	13.5	830	.71	.82
August -----	10.5	7.5	9.	553	.47	.51
September -----	7.5	0.5	7.5	440	.40	.45
October -----	7.	0.5	0.5	400	.34	.39
November -----	0.5	0.	0.5	387	.34	.38
December -----	0.	5.5	0.	300	.31	.36
The year --	58.	3.5	12.5	8,055	0.65	8.82

**ESTIMATED MONTHLY DISCHARGE**  
**Of City Creek, near Salt Lake City, Utah, for 1903.**  
**(Drainage area, 10 square miles.)**

Month:	Discharge in Second-Feet.			Total in Acre Feet.	Run-Off.	
	Maximum	Minimum	Mean.		Sec.-ft. per Sq. mile.	Depth in Inches.
January -----	7.	6.	6.	369	.31	.30
February -----	11.	4.5	6.	333	.31	.32
March -----	10.5	5.5	6.5	400	.34	.39
April -----	16.	7.5	10.	595	.53	.59
May -----	43.	12.5	20.5	1,030	1.40	1.61
June -----	63.	21.	40.	2,380	2.10	2.34
July -----	21.	13.	16.	983	.84	.97
August -----	13.5	10.	11.5	700	.51	.59
September -----	10.	8.5	9.	536	.47	.52
October -----	11.	8.5	9.5	581	.50	.58
November -----	8.	7.	7.5	446	.40	.45
December -----	7.	6.5	7.	430	.35	.40
The year -----	63.	4.5	13.	9,302	0.07	0.12

**ESTIMATED MONTHLY DISCHARGE**  
**Of City Creek, near Salt Lake City, Utah, for 1904.**  
**(Drainage area, 10 square miles.)**

Month.	Discharge in Second-Feet.			Total in Acre Feet.	Run-Off.	
	Maximum	Minimum	Mean.		Sec.-ft. per Sq. mile.	Depth in Inches.
January -----	6.5	6.	6.	360	0.31	0.30
February -----	8.	6.	6.5	301	.34	.35
March -----	11.	7.5	8.	402	.42	.48
April -----	20.	11.	22.	1,222	1.10	1.30
May -----	70.	28.	55.5	3,413	2.02	2.30
June -----	57.	20.5	39.	2,321	2.05	2.20
July -----	26.5	10.	16.	1,108	1.00	1.15
August -----	15.5	11.	13.5	830	.71	.82
September -----	11.5	9.5	10.5	625	.53	.61
October -----	9.5	8.5	9.	553	.47	.54
November -----	8.5	8.	8.5	500	.45	.50
December -----	9.	7.5	8.	402	.42	.48
The year -----	70.	6.	14.5	12,352	.00	12.24

**ESTIMATED MONTHLY DISCHARGE**  
 Of City Creek, near Salt Lake City, Utah, for 1905.  
 (Drainage area, 19 square miles.)

Month.	Discharge in Second-Feet.			Total in Acre Feet.	Run-Off.	
	Maximum	Minimum	Mean.		Sec.-ft. per Sq. mile.	Depth in Inches.
January	8.5	7.5	7.5	461	0.40	.46
February	9.5	6.5	7.5	417	.40	.42
March	9.	7.5	8.	402	.42	.48
April	17.5	8.5	12.5	744	.66	.74
May	45.	19.	30.	1,844	1.58	1.82
June	36.5	18.	27.	1,600	1.31	1.46
July	17.5	12.5	14.5	892	.76	.88
August	12.5	9.5	10.5	616	.55	.63
September	10.	8.5	9.	536	.47	.52
October	9.	8.	8.5	523	.45	.52
November	8.	7.5	8.	476	.42	.47
December	8.5	7.5	8.	402	.42	.48
The year	45.	6.5	12.5	9,120	0.65	8.88

**ESTIMATED MONTHLY DISCHARGE**  
 Of City Creek, near Salt Lake City, Utah, for 1906.  
 (Drainage area, 10 square miles.)

Month.	Discharge in Second-Feet.			Total in Acre Feet.	Run-Off.	
	Maximum	Minimum	Mean.		Sec.-ft. per Sq. mile.	Depth in Inches.
January	8.5	7.5	8.	402	0.42	.48
February	9.	7.5	8.	444	.42	.44
March	15.	8.	10.5	616	.55	.63
April	33.	19.5	22.5	1,330	1.18	1.32
May	60.	20.5	50.5	3,105	2.05	2.06
June	50.	33.	50.	2,076	2.03	2.03
July	20.5	10.	20.	1,414	1.21	1.30
August	10.	13.5	15.5	953	.81	.93
September	13.5	11.	12.	714	.63	.70
October	11.	10.5	10.5	616	.55	.63
November	10.5	9.5	10.	555	.52	.58
December	9.5	9.	9.5	531	.50	.58
The year	60.	7.5	10.	13,017	1.00	13.07

MONTHLY DISCHARGE  
In thousands of acre-feet of City Creek, near Salt Lake City.  
(Drainage area, 19 square miles.)

Year	Run-Off																
	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Total.	Sec. Ft.	per Sq. Mi.	Depth in	Inches.
1890 ——	0.31	0.28	0.40	1.24	2.89	4.70	1.78	0.88	0.69	0.62	0.54	0.52	14.49	1.05	14.26		
1900 ——	0.49	0.42	0.55	0.60	1.48	0.95	0.62	0.46	0.39	0.40	0.39	0.40	7.13	0.52	7.03		
1901 ——	0.24	0.31	0.45	0.65	3.14	1.40	0.77	0.55	0.42	0.46	0.42	0.40	9.18	0.67	9.15		
1902 ——	0.27	0.31	0.57	0.89	2.37	1.76	0.83	0.55	0.45	0.49	0.39	0.37	8.96	0.65	8.82		
1903 ——	0.37	0.33	0.40	0.60	1.65	2.38	0.98	0.71	0.54	0.58	0.45	0.43	9.39	0.67	9.12		
1904 ——	0.27	0.26	0.39	1.22	3.41	2.32	1.17	0.82	0.63	0.55	0.51	0.49	12.35	0.90	12.24		
1905 ——	0.46	0.41	0.49	0.74	1.84	1.61	0.89	0.65	0.54	0.52	0.48	0.40	9.13	0.65	8.88		
1906 ——	0.49	0.44	0.65	1.24	3.11	2.98	1.41	0.95	0.71	0.65	0.60	0.58	13.92	1.00	13.67		
Mean ——	0.40	0.36	0.47	0.91	2.43	2.26	1.06	0.69	0.54	0.52	0.47	0.46	10.57	0.76	10.40		

**ESTIMATED MONTHLY DISCHARGE**  
**Of Parley's Creek, near Salt Lake City, Utah, for 1898.**  
 (Drainage area, 50 square miles.)

Month.	Discharge in Second-Feet.			Total in Acre Feet	Run-Off.	
	Maximum	Minimum	Mean.		Sec.-ft. per Sq. mile.	Depth in Inches.
August	11.5	7.	9.5	584	.19	.22
September	12.	7.5	9.	536	.18	.20
October	14.5	8.5	10.5	646	.21	.24
November	14.	6.5	9.5	565	.19	.21
December	13.5	3.	8.5	516	.17	.20
The period	14.5	3.	9.5	2,847	.19	1.07

**ESTIMATED MONTHLY DISCHARGE**  
**Of Parley's Creek, near Salt Lake City, Utah, for 1899.**  
 (Drainage area, 50 square miles.)

Month.	Discharge in Second-Feet.			Total in Acre Feet	Run-Off.	
	Maximum	Minimum	Mean.		Sec.-ft. per Sq. mile.	Depth in Inches.
January	13.5	6.5	9.	533	.18	.21
February	11.	4.	8.	444	.16	.17
March			*25.	1,537	.50	.53
April	215.	48.5	140.5	8,180	2.03	3.27
May	220.	113.	175.	10,760	3.50	4.01
June	227.5	125.5	181.5	10,080	3.63	4.05
July	121.	31.	61.	3,760	1.22	1.41
August	28.5	14.5	21.	1,201	.42	.48
September	16.	12.5	14.5	805	.29	.32
October	21.5	14.5	16.5	1,014	.33	.38
November	19.	13.	14.5	805	.29	.32
December	15.	4.	11.5	707	.23	.27
The year	227.5	4.	57.	39,881	1.08	15.60

**ESTIMATED MONTHLY DISCHARGE**  
**Of Parley's Creek, near Salt Lake City, Utah, for 1900.**  
 (Drainage area, 50 square miles.)

Month.	Discharge in Second-Feet.			Total in Acre Feet	Run-Off.	
	Maximum	Minimum	Mean.		Sec.-ft. per Sq. mile.	Depth in Inches.
January	15.5	8.	12.	738	.24	.28
February	11.5	9.	10.5	593	.21	.22
March	20.	10.5	10.5	1,015	.33	.38
April	31.	15.	21.	1,250	.42	.47
May	30.	22.5	27.5	1,001	.55	.63
June	24.	9.5	10.	932	.32	.36
July	135.5	6.	6.5	581	.10	.22
August	10.5	0.	7.5	401	.16	.17
September	10.	4.5	7.	417	.14	.16
October	12.	7.5	9.	683	.18	.21
November	12.	5.5	9.	470	.16	.18
December	9.	3.	7.5	401	.15	.17
The year	30.	3.	12.5	0.181	.25	3.45

**ESTIMATED MONTHLY DISCHARGE**  
**Of Parley's Creek, near Salt Lake City, Utah, for 1901.**  
 (Drainage area, 50 square miles.)

Month.	Discharge in Second-Feet.			Total in Acre Feet.	Run-Off.	
	Maximum	Minimum	Mean.		Sq. ft. per Acre	Depth in Inches.
January -----	10.	4.	7.5	.401	.015	.017
February -----	16.	5.	9.	.500	.018	.10
March -----	17.5	9.5	11.	.076	.022	.25
April -----	90.5	11.	38.	2,261	.76	.85
May -----	109.5	42.5	86.5	5,310	1.73	1.00
June -----	48.	18.	28.5	1,606	.57	.64
July -----	20.	10.	14.	.860	.28	.32
August -----	10.5	6.	11.5	.707	.022	.25
September -----	13.	7.5	8.5	.506	.017	.19
October -----	10.	8.	8.5	.523	.017	.20
November -----	11.5	7.5	8.	.470	.016	.18
December -----	13.5	3.0	7.5	.401	.016	.17
The year .....	109.5	3.	20.	14,446	.40	5.40

**ESTIMATED MONTHLY DISCHARGE**  
**Of Parley's Creek, near Salt Lake City, Utah, for 1902.**  
 (Drainage area, 50 square miles.)

Month.	Discharge in Second-Feet.			Total in Acre Feet.	Run-Off.	
	Maximum	Minimum	Mean.		Sq. ft. per Acre	Depth in Inches.
January -----	9.5	2.	7.	.430	.014	.016
February -----	9.5	3.5	7.5	.417	.015	.10
March -----	10.5	6.	7.5	.401	.015	.17
April -----	85.5	0.5	33.5	1,004	.07	.75
May -----	95.5	33.5	58.5	3,507	1.17	1.35
Juno -----	74.	18.5	33.5	1,004	.07	.75
July -----	17.	10.5	13.5	.830	.027	.30
August -----	13.	6.5	10.5	.610	.021	.24
September -----	0.	7.	7.5	.410	.016	.17
October -----	8.	7.	7.5	.401	.016	.17
November -----	0.5	5.	7.5	.410	.016	.17
December -----	10.	3.	6.5	.400	.013	.15
The year .....	95.5	2.	17.	12,122	.33	4.54

**ESTIMATED MONTHLY DISCHARGE**  
**Of Parley's Creek, near Salt Lake City, Utah, for 1903.**  
**(Drainage area, 50 square miles.)**

Month.	Discharge in Second-Feet.			Total in Acre Feet.	Run-Off.	
	Maximum	Minimum.	Mean.		Sec.-ft. per Sq. mile.	Depth in Inches.
January -----	15.5	4.5	8.	492	0.16	.18
February -----	8.	3.5	6.5	361	.13	.14
March -----	24.5	6.	12.	738	.24	.28
April -----	88.	13.5	30.	1,785	.60	.67
May -----	124.	51.5	74.	4,550	1.48	1.70
June -----	133.5	20.5	55.	3,273	1.10	1.22
July -----	36.5	13.5	16.5	1,015	.33	.38
August -----	14.5	8.	11.	676	.22	.25
September -----	10.	7.5	8.5	506	.17	.19
October -----	11.	8.5	9.5	584	.19	.22
November -----	13.	2.5	8.5	506	.17	.19
December -----	8.5	2.	6.	309	.12	.14
The year .....	133.5	2.	20.5	14,855	.41	5.56

**ESTIMATED MONTHLY DISCHARGE**  
**Of Parley's Creek, near Salt Lake City, Utah, for 1904.**  
**(Drainage area, 50 square miles.)**

Month.	Discharge in Second-Feet.			Total in Acre Feet.	Run-Off.	
	Maximum	Minimum.	Mean.		Sec.-ft. per Sq. mile.	Depth in Inches.
January -----	0.	5.	7.	430	0.14	.10
February -----	18.	4.	10.5	593	0.21	.22
March -----	30.5	9.5	19.5	1,100	0.30	0.45
April -----	207.5	70.	123.	7,320	2.40	2.56
May -----	208.5	88.	108.5	10,301	3.37	3.88
June -----	137.5	28.5	62.5	3,124	1.05	1.17
July -----	41.	10.5	20.	1,500	0.52	.00
August -----	20.	12.	16.	984	0.32	.37
September -----	13.	9.5	11.5	685	0.23	.26
October -----	13.5	12.	13.	700	0.20	.30
November -----	12.	9.	10.5	625	0.21	.23
December -----	11.	2.5	8.5	523	0.17	.20
The year .....	208.5	2.5	30.	28,232	0.78	10.40

**ESTIMATED MONTHLY DISCHARGE**  
**Of Payley's Creek, near Salt Lake City, Utah, for 1888.**

Month.	Discharge in Second-Feet.			Total in Acre Feet.	Run-Off.	
	Maximum	Minimum	Mean		Sec.-ft. per Sq. mile.	Depth in Inches.
January	15.	6.5	9.	553	0.18	0.21
February	12.	2.	9.	500	0.18	0.19
March	10.	7.	9.5	584	0.19	0.22
April	38.5	8.5	19.	1,131	0.38	0.42
May	50.5	23.	37.	2,275	0.74	0.85
June	28.	15.	21.5	1,281	0.43	0.48
July	15.5	10.	12.5	760	0.25	0.29
August	13.	6.5	8.	492	0.16	0.18
September	11.5	6.	6.5	387	0.13	0.15
October	7.5	5.5	7.	430	0.14	0.16
November	7.5	5.	6.5	387	0.13	0.15
December	8.5	3.	6.	369	0.12	0.14
The year	50.5	2.	12.5	9,158	0.25	3.44

**ESTIMATED MONTHLY DISCHARGE  
Of Parley's Creek, near Salt Lake City, Utah, for 1900.  
(Drainage area, 50 square miles.)**

Month.	Discharge in Second-Feet.			Total in Aero Feet.	Run-Off.	
	Maximum	Minimum	Mean.		Sec. ft. per Sq. mile,	Depth in Inches.
January	12.	4.	7.5	401	0.15	0.17
February	27.5	6.	8.	414	0.16	0.17
March	27.5	4.5	13.	709	0.20	0.30
April	30.	21.5	20.5	1,577	0.53	0.50
May	146.	71.	107.	6,180	2.14	2.47
June	122.	38.5	69.	4,105	1.38	1.61
July	98.5	18.	21.5	1,507	0.40	0.50
August	31.	14.	17.5	1,070	0.35	0.40
September	15.	10.	11.5	685	0.23	0.20
October	10.5	9.	9.5	581	0.10	0.22
November	12.5	3.5	9.	530	0.18	0.20
December	15.	6.	10.	615	0.20	0.23
The year	146.	4.	20.	18,569	0.52	7.11

**MONTHLY DISCHARGE**  
In thousands of acre-feet of Parley's Creek, near Salt Lake City.  
(Drainage area, 50 square miles.)

**ESTIMATED MONTHLY DISCHARGE**  
**Of Mill Creek, near Salt Lake City, Utah, for 1899.**  
**(Drainage area, 21 square miles.)**

Month.	Discharge in Second-Feet.			Total in Acre Feet.	Run-Off.	
	Maximum	Minimum	Mean.		Sec.-ft. per Sq. mile.	Depth in Inches.
January	13.	8.	11.5	707	0.55	.63
February	12.5	3.	10.	555	0.48	.50
March	14.5	11.5	12.	738	.57	.66
April	24.5	12.5	16.5	982	.70	.88
May	40.	23.	35.	2,152	1.00	1.04
June	66.	34.	50.5	3,003	2.40	2.68
July	35.5	20.	26.	1,500	1.24	1.43
August	20.	17.	18.	1,107	.86	.90
September	17.	15.	16.	952	.78	.85
October	18.5	11.5	14.5	802	.60	.60
November	14.5	13.	13.5	804	.64	.71
December	13.	2.5	11.5	707	.55	.63
The year	66.	2.5	19.5	14,100	0.03	12.70

**ESTIMATED MONTHLY DISCHARGE**  
**Of Mill Creek, near Salt Lake City, Utah, for 1900.**  
**(Drainage area, 21 square miles.)**

Month.	Discharge in Second-Feet.			Total in Acre Feet.	Run-Off.	
	Maximum	Minimum	Mean.		Sec.-ft. per Sq. mile.	Depth in Inches.
January	13.	8.	12.	738	0.67	0.00
February	11.5	8.	10.5	538	.50	.52
March	13.	10.5	12.	738	.57	.60
April	14.	11.5	12.5	741	.60	.67
May	31.	14.	21.5	1,322	1.02	1.18
June	23.	13.	16.	952	.70	.85
July	14.	9.	10.5	610	.50	.58
August	10.5	9.	9.5	684	.45	.52
September	9.	8.	8.5	500	.40	.45
October	9.	8.5	8.5	523	.40	.46
November	10.	8.5	9.0	530	.43	.48
December	8.5	1.5	7.5	401	.30	.42
The year	31.	1.5	11.5	8,933	0.60	7.35

**ESTIMATED MONTHLY DISCHARGE**  
**Of Mill Creek, near Salt Lake City, Utah, for 1901.**  
**(Drainage area, 21 square miles.)**

Month.	Discharge in Second-Feet.			Total in Acre Feet.	Run-Off.	
	Maximum	Minimum.	Mean.		Sec.-ft. per Sq. mile.	Depth in Inches.
January -----	9.	0.5	7.	430	0.33	.38
February -----	9.	3.5	8.	444	0.38	.40
March -----	9.	8.	8.5	523	.40	.46
April -----	12.	8.5	10.	695	.48	.54
May -----	47.5	15.	20.5	1,814	1.40	1.61
June -----	28.5	15.5	20.	1,190	.95	1.08
July -----	55.	55.	55.	552	.55	.55
August -----	15.	15.	15.	150	.30	.30
September -----	12.	11.5	11.5	685	.55	.61
October -----	12.	11.5	11.5	707	.55	.63
November -----	12.	11.5	11.5	685	.55	.61
December -----	13.	4.5	10.	615	.48	.53
The year --	47.5	0.5	13.	0.370	0.65	8.44

**ESTIMATED MONTHLY DISCHARGE**  
**Of Mill Creek, near Salt Lake City, Utah, for 1902.**  
**(Drainage area, 21 square miles.)**

Month.	Discharge in Second-Feet.			Total in Acre Feet.	Run-Off.	
	Maximum	Minimum.	Mean.		Sec.-ft. per Sq. mile.	Depth in Inches.
January -----	13.	3.5	6.5	584	0.45	.52
February -----	11.5	3.5	0.	500	.43	.45
March -----	9.5	9.5	9.5	584	.45	.52
April -----	15.5	0.5	13.	774	.02	.09
May -----	30.5	15.5	23.5	1,445	1.12	1.20
June -----	37.	17.	21.5	1,280	1.02	1.14
July -----	17.	11.5	13.5	830	.01	.74
August -----	11.5	0.5	11.	670	.52	.60
September -----	0.5	0.5	0.5	503	.45	.50
October -----	0.5	0.5	0.5	581	.45	.52
November -----	0.5	0.5	0.5	600	.40	.46
December -----	0.5	2.	7.	430	.33	.38
The year --	30.5	2.	12.	8,768	0.57	7.80

**ESTIMATED MONTHLY DISCHARGE  
Of Mill Creek, near Salt Lake City, Utah, for 1903.  
(Drainage area, 21 square miles.)**

Month.	Discharge in Second-Feet.			Total In Acre Feet.	Run-Off.	
	Maximum	Minimum	Mean.		Sec.-ft. per Sq. mile.	Depth in Inches.
January -----	9.5	4.	8.	492	0.38	.44
February -----	9.5	3.	6.5	361	.31	.32
March -----	9.5	5.5	8.5	523	.40	.46
April -----	12.	9.5	10.	595	.48	.54
May -----	25.	11.5	17.5	1,076	.83	.96
June -----	34.5	16.5	26.	1,547	1.24	1.37
July -----	17.	15.	15.	922	.71	.82
August -----	15.	11.5	13.	700	.62	.71
September -----	11.5	11.5	11.5	685	.56	.61
October -----	11.5	11.5	11.5	707	.55	.63
November -----	11.5	5.5	11.	655	.52	.58
December -----	11.5	3.5	9.	583	.43	.50
The year --	34.5	3.	12.5	8,016	0.58	7.94

**ESTIMATED MONTHLY DISCHARGE  
Of Mill Creek, near Salt Lake City, Utah, for 1904.  
(Drainage area, 21 square miles.)**

Month.	Discharge in Second-Feet.			Total In Acre Feet.	Run-Off.	
	Maximum	Minimum	Mean.		Sec.-ft. per Sq. mile.	Depth in Inches.
January -----	13.	6.5	10.	616	0.48	.55
February -----	13.	3.5	10.	533	.48	.50
March -----	13.	6.5	11.	670	.48	.55
April -----	25.	11.5	19.	1,130	.90	1.00
May -----	50.	25.	41.5	2,552	1.08	2.28
June -----	60.	20.5	41.	2,440	1.06	2.18
July -----	29.5	21.	25.5	1,508	2.21	1.89
August -----	17.	13.	15.	922	.71	.82
September -----	16.	13.	15.	803	.71	.79
October -----	14.	13.	13.5	830	.64	.74
November -----	13.	11.5	12.5	744	.60	.67
December -----	11.5	1.	8.5	623	.40	.46
The year --	60.	1.	18.5	13,448	0.88	11.03

**ESTIMATED MONTHLY DISCHARGE**  
**Of Mill Creek, near Salt Lake City, Utah, for 1905.**  
**(Drainage area, 21 square miles.)**

Month.	Discharge in Second-Feet.			Total in Acre Feet.	Run-Off.	
	Maximum	Minimum.	Mean.		Sec.-ft. per Sq. mile.	Depth in Inches.
January	9.	9.	9.	553	0.43	.50
February	9.5	2.	8.	444	.38	.40
March	11.5	8.5	10.	616	.48	.55
April	17.	11.5	12.5	744	.60	.67
May	38.5	17.	23.	1,414	1.10	1.27
June	37.	21.	26.5	1,577	1.26	1.41
July	17.	15.	15.5	953	.74	.85
August	15.	11.	12.5	769	.60	.69
September	13.	11.	12.5	714	.57	.64
October	13.	11.5	11.5	707	.55	.63
November	11.5	8.5	10.	595	.48	.54
December	11.5	1.	7.	430	.33	.38
The year	38.5	1.	18.	9,615	.63	8.53

**ESTIMATED MONTHLY DISCHARGE**  
**Of Mill Creek, near Salt Lake City, Utah, for 1906.**  
**(Drainage area, 21 square miles.)**

Month.	Discharge in Second-Feet.			Total in Acre Feet.	Run-Off.	
	Maximum	Minimum.	Mean.		Sec.-ft. per Sq. mile.	Depth in Inches.
January	11.5	3.	8.5	523	0.40	.40
February	0.5	0.5	0.5	528	0.45	.047
March	9.5	5.5	6.5	584	0.45	0.62
April	21.	9.5	15.	893	0.71	0.70
May	50.	10.5	31.5	1,037	1.65	1.70
June	60.	24.5	37.	2,202	1.70	1.07
July	25.	11.5	10.	1,108	0.00	1.04
August	27.5	12.5	15.5	923	0.74	0.85
September	16.5	13.	14.	833	0.07	0.75
October	13.	13.	13.	709	.002	0.71
November	13.	4.	11.5	685	0.55	0.01
December	11.5	11.5	11.5	707	0.55	0.63
The year	50.	3.	16.5	11,782	0.78	10.60

MONTHLY DISCHARGE  
In thousands of acre-feet of Mill Creek, near Salt Lake City.  
(Drainage area, 21 square miles.)

Year.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Total.	Run-off.	
													Sec. Ft. per Sq. Mi.	Depth in Inches.	
1899	0.71	0.76	0.74	0.88	2.15	3.01	1.60	1.11	0.95	0.58	0.59	0.71	14.20	0.93	12.70
1900	0.74	0.58	0.74	0.74	1.32	0.95	0.65	0.51	0.52	0.54	0.46	0.33	0.36	7.45	
1901	0.43	0.44	0.52	0.63	1.81	1.19	0.92	0.77	0.69	0.71	0.63	0.62	9.38	0.65	8.44
1902	0.38	0.50	0.58	0.77	1.45	1.28	0.53	0.68	0.57	0.58	0.51	0.43	8.76	0.57	7.80
1903	0.49	0.26	0.22	0.60	1.08	1.53	0.92	0.80	0.69	0.71	0.66	0.55	8.91	0.58	7.94
1904	0.62	0.55	0.68	1.13	2.35	2.44	1.57	0.92	0.89	0.83	0.74	0.52	13.45	0.85	11.93
1905	0.35	0.44	0.62	0.74	1.41	1.58	0.95	0.77	0.71	0.60	0.43	0.60	9.52	0.63	8.53
1906	0.32	0.33	0.58	0.89	1.94	2.20	1.17	0.92	0.88	0.80	0.60	0.71	11.78	0.78	10.59
Mean	0.35	0.50	0.63	0.81	1.71	1.78	1.08	0.82	0.73	0.72	0.65	0.55	10.54	0.70	9.42

**ESTIMATED MONTHLY DISCHARGE**  
**Of Big Cottonwood Creek, near Salt Lake City, Utah, for 1898.**  
**(Drainage area, 49.5 square miles.)**

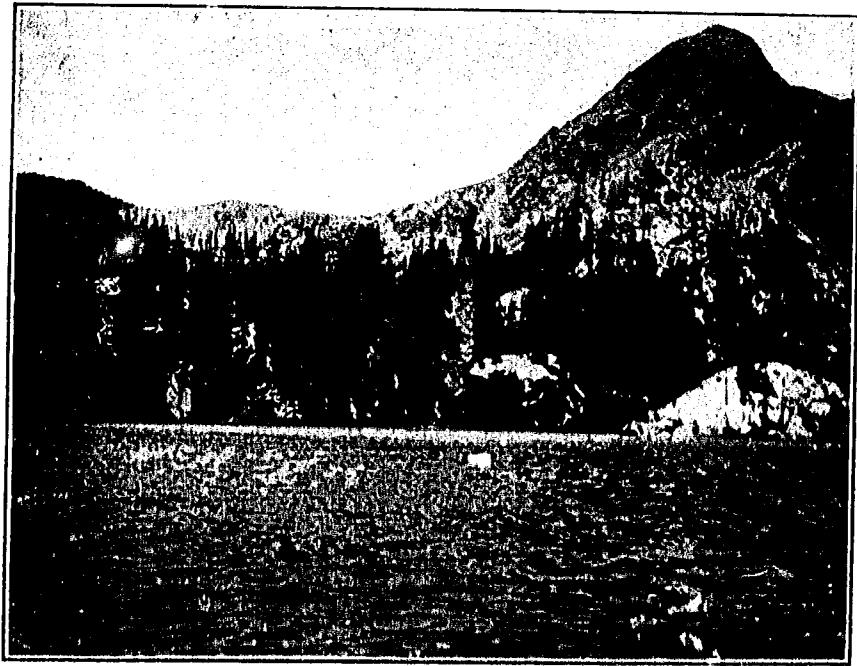
Month.	Discharge in Second-Feet.			Total in Acre Feet.	Run-Off.	
	Maximum	Minimum	Mean.		Sec.-ft. per Sq. mile.	Depth in Inches.
November -----	37.	26.5	33.	1,964	0.08	0.76
December -----	36.5	16.	25.5	1,567	.51	.59

**ESTIMATED MONTHLY DISCHARGE**  
**Of Big Cottonwood Creek, near Salt Lake City, Utah, for 1899.**  
**(Drainage area, 49.5 square miles.)**

Month.	Discharge in Second-Feet.			Total in Acre Feet.	Run-Off.	
	Maximum	Minimum	Mean.		Sec.-ft. per Sq. mile.	Depth in Inches.
January -----			25.	1,537	0.50	0.58
February -----	33.5	0	24.5	1,361	.49	.51
March -----	43.5	25.	32.5	1,000	.66	.76
April -----	150.	35.	95.	5,053	1.02	2.14
May -----	200.	67.5	180.5	11,000	3.05	4.21
June -----	651.5	211.5	378.5	22,623	7.05	8.54
July -----	205.	100.5	104.5	10,115	3.82	3.82
August -----			90.	5,534	1.85	2.13
The period.	651.5	0.	129.5	59,821	2.53	22.60

**ESTIMATED MONTHLY DISCHARGE**  
**Of Big Cottonwood Creek, near Salt Lake City, Utah, for 1900.**  
**(Drainage area, 49.5 square miles.)**

Month.	Discharge in Second-Feet.			Total in Acre Feet.	Run-Off.	
	Maximum	Minimum	Mean.		Sec.-ft. per Sq. mile.	Depth in Inches.
May -----			222.	13,602	4.48	5.16
Juno -----	282.	80.	171.	5,206	8.43	3.82
July -----	84.	38.	47.5	2,337	.06	1.11
August -----	38.5	28.	33.5	1,722	.07	.77
September -----	23.5	22.5	25.5	1,330	.52	.58
October -----	31.	24.5	27.5	1,507	.55	.03
November -----	33.	20.	29.	1,617	.58	.03
December -----	20.	13.5	25.	830	.50	.58
The period.	282.	13.5	72.5	28,240	1.40	18.30



LAKE MARY,

One of the series of lakes at the head of Big Cottonwood Creek.

**ESTIMATED MONTHLY DISCHARGE**  
**Of Big Cottonwood Creek, near Salt Lake City, Utah, for 1901.**  
 (Drainage area, 49.5 square miles.)

Month.	Discharge in Second-Feet.			Total in Acre Feet.	Run-Off.	
	Maximum	Minimum	Mean		Sec.-ft. per Sq. mile.	Depth in Inches.
January	26.	11.5	22.	1,353	.044	.51
February	28.	17.5	23.5	1,305	.47	.40
March	34.5	23.	29.5	1,814	.50	.68
April	146.	22.	69.5	4,136	1.44	1.61
May	407.5	170.	270.	16,602	5.47	6.31
June	241.	124.	171.5	10,205	3.46	3.85
July	129.5	38.	89.5	4,950	1.03	1.88
August	45.5	20.5	30.	2,398	.78	.90
September	37.	25.	30.	1,785	.60	.67
October	33.5	26.	29.	1,783	.59	.68
November	30.	25.	28.	1,666	.56	.62
December	34.	22.	27.	1,600	.54	.62
The year	407.5	11.5	69.	49,057	1.38	18.82

**ESTIMATED MONTHLY DISCHARGE**  
**Of Big Cottonwood Creek, near Salt Lake City, Utah, for 1902.**  
 (Drainage area, 49.5 square miles.)

Month.	Discharge in Second-Feet.			Total in Acre Feet.	Run-Off.	
	Maximum	Minimum	Mean		Sec.-ft. per Sq. mile.	Depth in Inches.
January	27.5	13.5	23.	1,414	0.47	.54
February	28.5	17.	24.	1,332	0.48	.50
March	27.5	20.5	24.5	1,507	.48	.65
April	143.	27.	70.5	4,105	1.42	1.68
May	309.5	100.	210.	12,012	4.24	4.80
June	309.5	91.5	194.5	11,574	3.03	4.38
July	92.5	41.	62.	3,812	1.25	1.44
August	39.	28.5	33.	2,020	.66	.70
September	31.5	25.	28.	1,000	.56	.62
October	29.	21.5	20.5	1,630	.54	.62
November	29.	22.	25.	1,488	.60	.50
December	29.5	10.	23.	1,414	.46	.53
The year	309.5	13.5	62.	44,073	1.25	10.07

**ESTIMATED MONTHLY DISCHARGE**  
**Of Big Cottonwood Creek, near Salt Lake City, Utah, for 1903.**  
 (Drainage area, 49.5 square miles.)

Month.	Discharge in Second-Feet.			Total in Acre Feet.	Run-Off.	
	Maximum	Minimum	Mean		Sec.-ft. per Sq. mile.	Depth in Inches.
January	25.5	10.	21.5	1,322	0.43	.50
February	24.	13.5	19.5	1,083	.39	.41
March	45.5	19.	24.	1,470	.48	.56
April	144.5	30.5	57.5	3,122	1.16	1.30
May	200.5	77.	150.	9,200	3.15	3.63
July	75.	30.	57.5	3,636	1.16	1.33
August	53.5	6.	24.5	1,507	.40	.56
The period	200.5	6.	51.5	21,600	1.01	8.28

**ESTIMATED MONTHLY DISCHARGE**  
**Of Big Cottonwood Creek, near Salt Lake City, Utah, for 1904.**  
 (Drainage area, 49.5 square miles.)

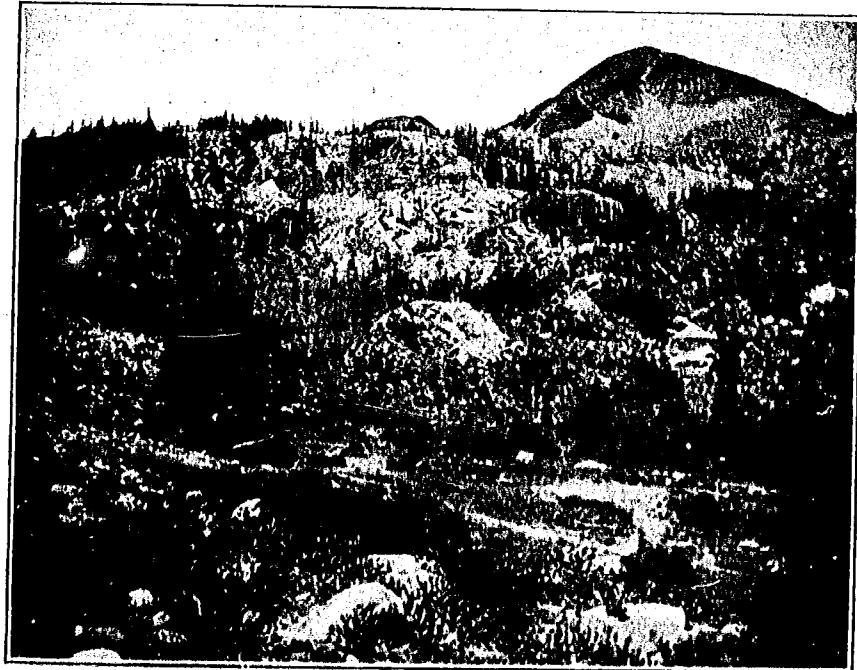
Month.	Discharge in Second-Feet.			Total in Acre Feet.	Run-Off.	
	Maximum	Minimum.	Mean.		Sec.-ft. per Sq. mile.	Depth in Inches.
September	38.5	30.5	36.	2,142	0.73	0.81
October	46.5	31.	37.	2,275	0.74	0.85
November	36.5	26.5	32.	1,904	0.64	0.71
December	31.	21.	25.5	1,568	0.51	0.59
The period	46.5	21.	35.	7,889	0.65	2.96

**ESTIMATED MONTHLY DISCHARGE**  
**Of Big Cottonwood Creek, near Salt Lake City, Utah, for 1905.**  
 (Drainage area, 49.5 square miles.)

Month.	Discharge in Second-Feet.			Total in Acre Feet.	Run-Off.	
	Maximum	Minimum.	Mean.		Sec.-ft. per Sq. mile.	Depth in Inches.
January	28.5	22.5	26.	1,599	0.53	0.61
February	29.5	17.5	25.	1,388	0.40	0.42
March	33.	24.5	29.	1,783	0.50	0.68
April	114.	33.	60.5	3,000	1.22	1.36
May	223.	70.5	135.	8,025	2.73	3.15
June	205.5	100.5	188.	11,187	3.70	4.23
July	100.5	39.5	63.5	3,005	1.28	1.47
August	45.5	23.	35.5	2,183	0.72	0.82
September	44.5	26.	31.5	1,875	0.61	0.71
October	38.	25.5	32.	1,008	0.61	0.74
November	33.	16.	28.	1,600	0.53	0.62
December	30.5	17.5	26.5	1,030	0.53	0.61
The year	205.5	10.	50.5	40,800	1.14	15.42

**ESTIMATED MONTHLY DISCHARGE**  
**Of Big Cottonwood Creek, near Salt Lake City, Utah, for 1906.**  
 (Drainage area, 49.5 square miles.)

Month.	Discharge in Second-Feet.			Total in Acre Feet.	Run-Off.	
	Maximum	Minimum.	Mean.		Sec.-ft. per Sq. mile.	Depth in Inches.
January	20.5	10.	20.	1,600	0.53	0.61
February	28.	25.5	27.	1,600	0.55	0.57
March	43.	23.	31.5	1,937	0.61	0.74
April	130.5	37.5	79.5	4,374	1.48	1.65
May	288.	77.5	100.	12,032	3.00	4.57
June	252.5	178.	200.	12,258	4.16	4.81
July	210.	80.	144.5	15,034	2.02	3.30
August	114.5	60.5	74.5	4,581	1.50	1.73
September	90.	40.5	60.5	3,000	1.22	1.30
The period	288.	10.	93.	50,035	1.90	19.29



VIEW AT BRIGHTON, SILVER LAKE,

Showing character of upper watershed of Big Cottonwood Creek,  
near Salt Lake City.

MONTHLY DISCHARGE  
In thousands of acre-feet of Big Cottonwood Creek, near Salt Lake City.  
(Drainage area, 49.5 square miles.)

Year.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Total.	Sec. Ft. per Sq. Mi.	Run-Off.	
															Depth in Inches.	
1888																
1889	1.54	1.26	2.00	3.65	11.10	22.52	10.22	5.23					1.96	1.57		
1890																
1901	1.35	1.21	1.81	4.14	16.60	10.21	2.34	1.72	1.34	1.51	1.35	0.83				
1902	1.41	1.35	1.71	4.29	12.91	11.57	3.51	2.40	1.79	1.78	1.67	1.66	49.06	1.38	18.82	
1903	1.22	1.08	1.48	3.42	9.26		3.54	1.51	1.67	1.63	1.49	1.41	44.97	1.25	16.97	
1904																
1905	1.60	1.29	1.78	3.00	8.03	11.19	3.91		2.14	2.28	1.90	1.57				
1906	1.60	1.59	1.94	4.57	12.05	12.26	15.03	4.58	3.60		1.97	1.67	1.63	40.81	1.14	15.42
Mean	1.47	1.22	1.75	4.23	11.94	12.17	6.26	2.85	2.24	1.83	1.71	1.45	49.23	1.38	18.82	

**PRECIPITATION**  
At Salt Lake City, Utah.

Year.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.	Ann.	
1874 -----			1.31	0.90	2.84	0.74	2.42	1.63	0.20	1.74	2.16	0.73		
1875 -----	3.05	0.79	2.81	1.50	2.91	0.90	1.01	0.25	1.22	1.36	5.81	2.03	23.64	
1876 -----	1.23	1.52	4.00	2.09	4.30	0.99	0.83	0.92	0.42	3.27	0.81	1.80	21.28	
1877 -----	0.87	0.38	2.93	2.14	3.49	0.80	0.02	0.28	0.90	2.41	1.02	1.11	16.35	
1878 -----	1.07	3.49	2.54	2.62	2.50	0.35	1.08	0.81	3.15	1.39	0.63	0.11	19.75	
1879 -----	1.87	0.71	0.67	3.26	0.10	1.34	0.07	0.06	0.01	1.62	0.32	3.08	13.11	
1880 -----	0.29	1.02	0.43	2.37	1.85	0.01	0.20	0.74	0.56	0.40	1.17	1.90	10.94	
1881 -----	1.24	2.44	0.88	2.37	2.25	0.28	0.21	1.66	0.43	2.19	1.44	1.24	16.93	
1882 -----	1.50	0.42	1.12	3.81	0.26	2.24	0.24	0.30	1.61	0.37	2.89	0.54	0.92	15.98
1883 -----	1.47	0.72	1.75	2.92	0.98	0.33	0.10	0.62	0.13	2.24	1.78	1.20	14.24	
1884 -----	0.71	2.23	3.69	2.89	1.78	0.33	0.27	0.73	1.91	0.36	0.50	2.12	17.52	
1885 -----	1.48	1.56	0.64	3.47	2.49	2.07	0.58	0.90	1.29	0.59	3.10	0.92	19.69	
1886 -----	1.91	1.36	2.60	4.43	0.06	1.02	Tr.	0.59	1.88	1.98	1.79	1.27	18.89	
1887 -----	2.36	1.41	0.35	1.87	0.73	0.37	1.32	0.60	0.55	0.30	0.25	1.55	11.66	
1888 -----	1.52	1.22	2.18	0.99	0.34	0.08	0.24	0.63	0.51	0.80	2.00	2.21	13.02	
1889 -----	0.73	0.81	1.04	1.52	2.97	0.01	0.08	0.92	0.52	3.85	1.04	4.37	18.46	
1890 -----	3.07	2.05	1.12	0.04	0.16	0.32	0.02	0.79	Tr.	1.44	Tr.	0.42	10.38	
1891 -----	0.74	0.70	4.06	1.49	0.72	1.08	0.47	0.46	1.19	1.20	0.00	2.10	15.92	
1892 -----	1.61	0.03	2.21	1.90	1.05	1.21	Tr.	0.04	0.12	1.58	0.72	2.35	14.08	
1893 -----	0.82	1.64	2.03	2.72	1.08	0.04	1.19	0.71	1.30	1.02	1.18	2.37	17.35	
1894 -----	1.31	0.83	1.73	1.07	1.22	1.38	0.82	0.57	2.87	1.01	0.28	1.28	15.27	
1895 -----	1.32	0.87	0.81	0.73	2.20	0.09	0.42	0.02	0.95	0.24	2.44	0.89	11.05	
1896 -----	1.20	0.00	1.00	2.53	3.07	0.25	1.35	1.47	0.52	0.70	3.15	0.84	18.42	
1897 -----	1.10	3.81	2.20	2.00	0.08	0.62	0.69	0.33	0.48	1.01	1.10	1.47	10.74	
1898 -----	0.58	0.88	1.71	1.30	4.10	1.45	0.18	1.36	0.15	1.57	1.95	1.28	16.00	
1899 -----	0.84	2.08	2.03	0.81	2.50	0.00	0.42	1.00	Tr.	2.85	1.52	0.61	17.57	
1900 -----	0.44	1.30	0.33	2.01	0.44	0.09	0.32	0.72	1.41	1.00	1.40	0.10	11.63	
1901 -----	0.05	1.77	2.48	0.87	4.27	0.49	0.31	1.22	0.66	0.08	0.02	1.10	10.08	
1902 -----	0.80	1.17	1.22	3.00	0.33	0.37	0.50	0.15	0.05	0.52	1.24	1.31	11.41	
1903 -----	2.11	0.82	1.35	1.11	3.65	0.74	0.14	0.43	0.84	0.81	2.21	0.51	14.02	
1904 -----	1.45	2.25	3.00	2.20	3.08	0.27	0.50	0.28	0.12	1.18	0.00	0.00	10.31	
1905 -----	0.05	1.22	2.02	1.70	2.74	0.23	0.03	0.68	2.07	0.21	0.73	0.83	14.28	
1906 -----	1.10	1.00	2.84	3.09	3.17	1.40	0.23	2.28	1.40	0.30	2.10	1.00	21.28	
Mean -----	1.80	1.41	2.01	2.15	2.03	0.73	0.53	0.70	0.86	1.43	1.40	1.40	16.08	

## Great Salt Lake at Saltair, Utah.

*(See Diagram of Fluctuations.)*

A gage was established March 7, 1904, on Great Salt Lake, Utah, in connection with evaporation investigations being carried on at this place. The gage is located 500 feet north west of the extreme northwest end of the temporary extension of the north wing of the bath houses of the Saltair pavilion. The gage is a staff, graduated to feet and tenths from —4 to +4.5 feet, attached to railroad irons driven vertically into the bed of the lake and securely braced. The lower end was driven 1 foot into the lake bed, so that the —4 foot mark is about even with the sand. The zero of this gage is set 6 feet below the zero of the old Lake Shore gage (see Gilbert's Monograph on Lake Bonneville, pp 231 and 409), and 2.33 feet below the zero of the temporary gage established at Saltair during 1903, by Dr. H. J. Hyatt, director of the United States Weather Bureau at Salt Lake City. Bench mark No. 1 is a United States Geological Survey standard bench-mark cap cemented on the top of the cap of a pile bent of the trestle support of the Salt Lake and Los Angeles Railroad. This is the thirteenth pile bent, 204 feet southeast of the end of the track. Its elevation is 11.17 feet above the zero of the gage, and 4,224.06 feet above sea level, as determined from Salt Lake City datum. Bench mark No. 2 is the head of a large screw driven into the northeast supporting post at the extreme northwest end of the row of bath houses, 500 feet southeast of the gage. Its elevation is 1.56 feet above the zero of the gage, and 4,214.45 feet above sea level.

This station was turned over to the United States Weather Bureau.

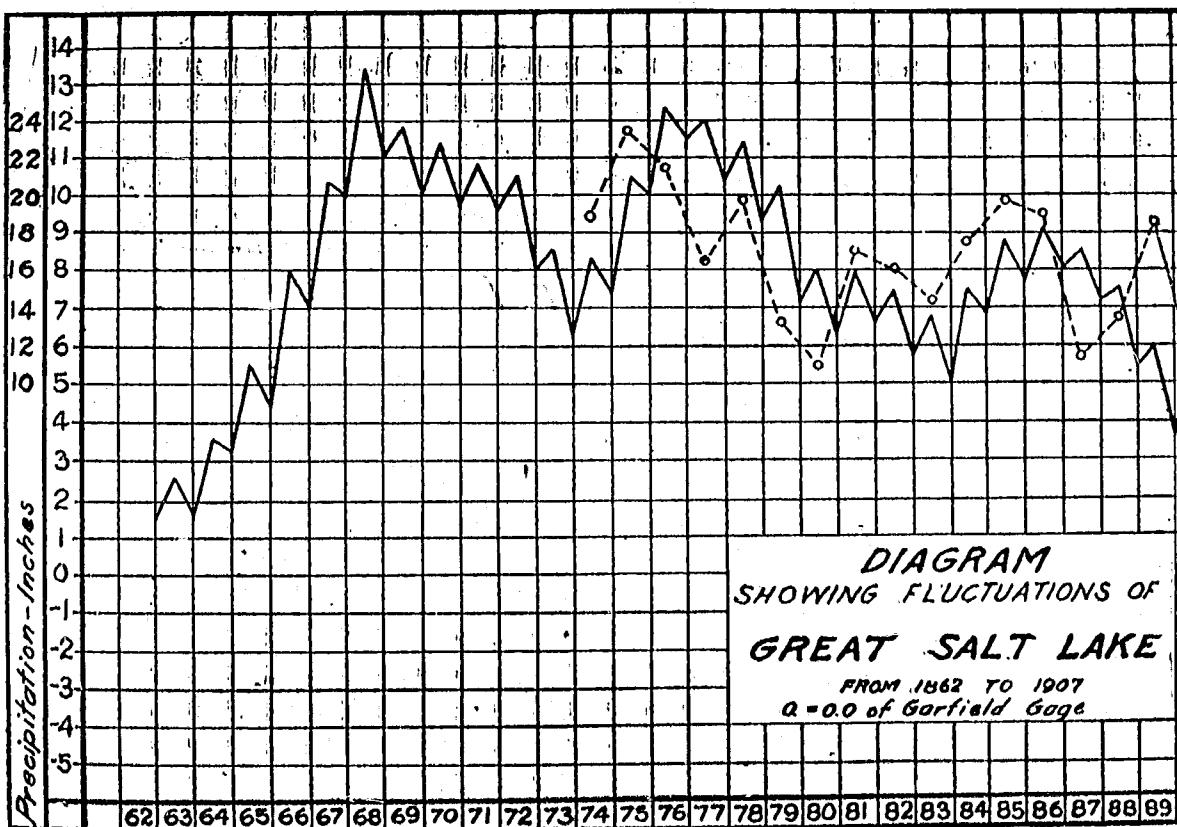
The accompanying Diagram of Fluctuations of Great Salt Lake is taken from data compiled by W. P. Hardesty for the U. S. Reclamation Service. There is a great deal of confusion and uncertainty as to the relationship between the datums of the various gages on which the fluctuations have been read.

The diagram represents as accurately as possible from all available records the fluctuations of the lake.

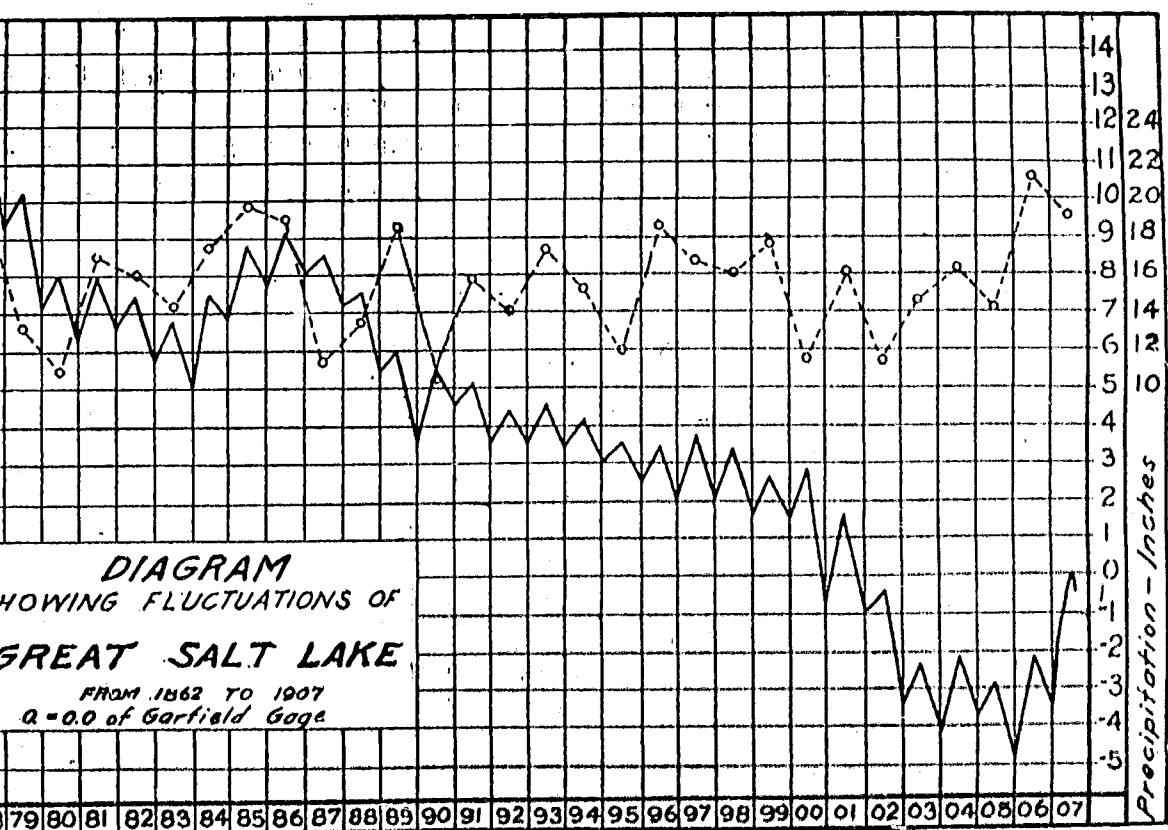
**GAGE HEIGHTS**  
Of Great Salt Lake at Saltair.

Year.	January		February		March		April		May		June	
	1	15	1	15	1	15	1	15	1	15	1	15
1904	-0.5	-0.5	-0.5	-0.4	-0.1	+0.1	+0.7	0.7	0.8	1.4	1.4	1.5
1905	0.0	0.1	0.1	0.2	0.3	0.3	0.6	0.7	0.7	0.8	0.7	0.7
1906	-1.0	-0.8	-0.8	-0.8	-0.7	-0.5	0.0	0.1	0.4	0.5	0.7	1.0

Year.	July		August		September		October		November		December	
	1	15	1	15	1	15	1	15	1	15	1	15
1904	1.4	1.3	1.0	0.6	0.4	0.3	0.0	0.0	0.0	0.0	0.0	-0.1
1905	0.4	0.1	-0.1	0.3	-0.6	-0.9	-0.9	-1.0	-1.1	-1.1	-1.0	-1.0
1906	1.4	1.2	0.0	0.6	0.5	0.5	0.4	0.3	0.2	0.2	0.2	0.3



Small circles and dash line show precipitation at Salt Lake

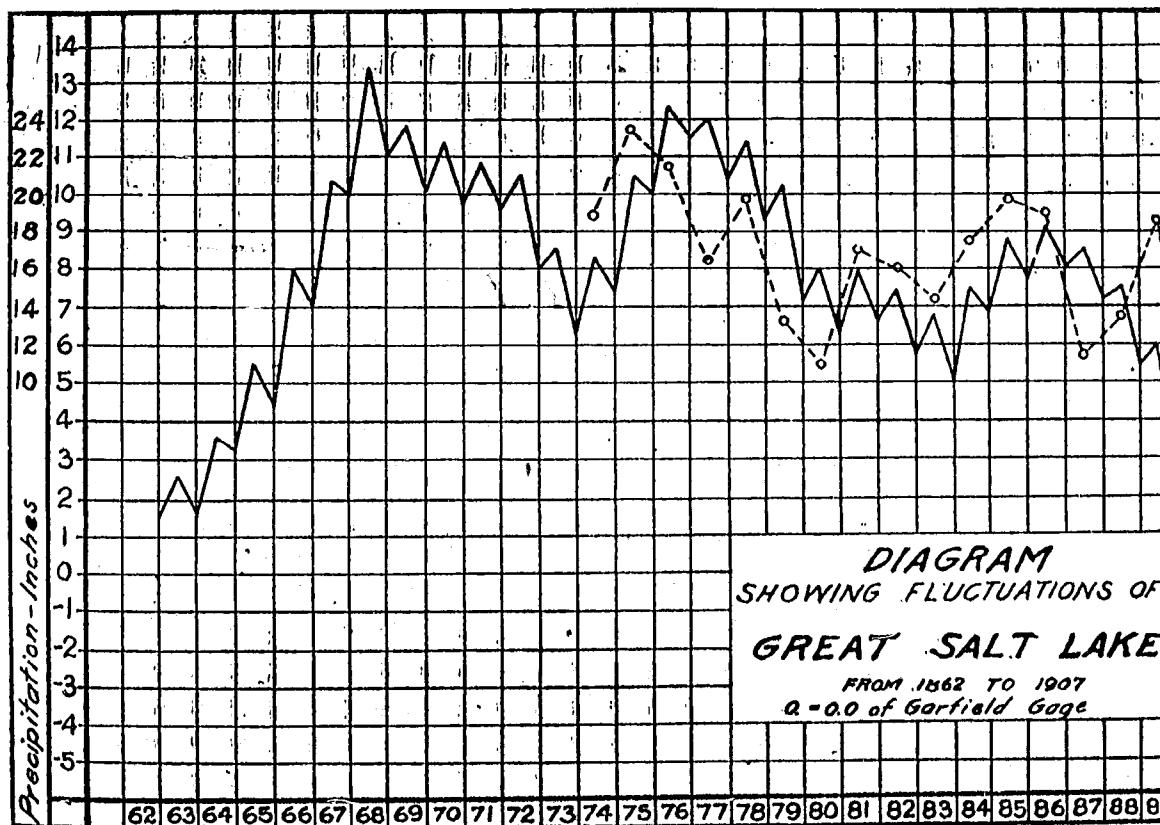


how precipitation at Salt Lake City. 1907 estimated.

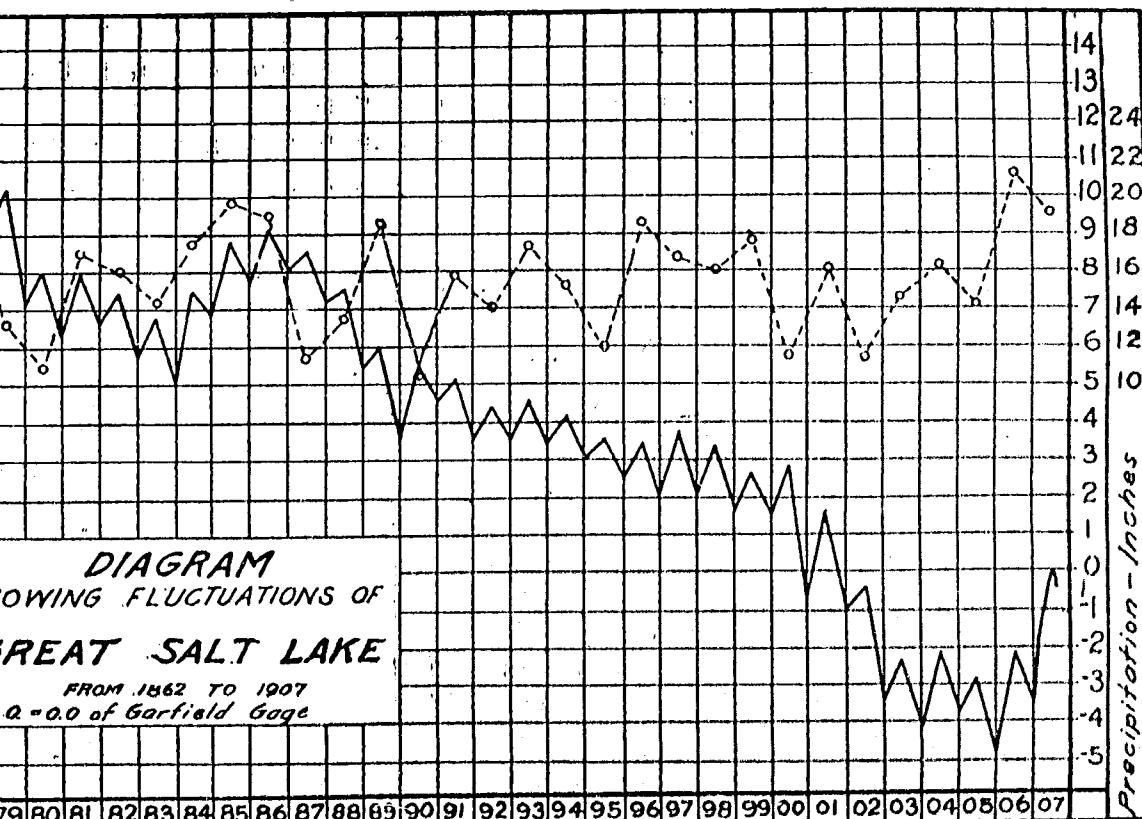
**GAGE HEIGHTS**  
Of Great Salt Lake at Saltair.

Year.	January		February		March		April		May		June	
	1	15	1	15	1	15	1	15	1	15	1	15
1904	-0.5	-0.5	-0.5	-0.4	-0.1	+0.1	+0.7	0.7	0.8	1.4	1.4	1.5
1905	0.0	0.1	0.1	0.2	0.3	0.3	0.6	0.7	0.7	0.8	0.7	0.7
1906	-1.0	-0.8	-0.8	-0.8	-0.7	-0.5	0.0	0.1	0.4	0.5	0.7	1.0

Year.	July		August		September		October		November		December	
	1	15	1	15	1	15	1	15	1	15	1	15
1904	1.4	1.3	1.0	0.6	0.4	0.3	0.0	0.0	0.0	0.0	0.0	-0.1
1905	0.4	0.1	-0.1	0.3	-0.6	-0.0	-0.0	-1.0	-1.1	-1.1	-1.0	-1.0
1906	1.4	1.2	0.0	0.6	0.5	0.5	0.4	0.3	0.2	0.2	0.2	0.3



Small circles and dash line show precipitation at Salt Lake City  
o - o of Garfield Gage



Show precipitation at Salt Lake City. 1907 estimated.

### Jordan River near Lehi, Utah.

This station was established May 30, 1904, by W. G. Swendsen. It is located at the highway bridge, about 800 feet below the pump house at the outlet of Utah Lake, near the town of Lehi, Utah. A staff gage, graduated to feet and tenths, is nailed vertically to a pier at the southeast corner of the bridge. It is read twice each day by W. A. Knight. Discharge measurements are made from a plank walk built across the stream upon cantilevers from the bridge to which the gage is attached. The initial point for soundings is two 10-penny nails driven close together in the east end of the plank. The channel is straight for about 150 feet above and below the station. The current is sluggish. Both banks are high, clean, and not subject to overflow. The bed of the stream is composed of clay and is probably not permanent, since the channel may be cleaned or dredged out at any time by the canal company. Bench mark No. 1 is a nail in the top of pile at the east abutment of the bridge. Its elevation is 8.57 feet above the zero of the gage. Bench mark No. 2 is the head of the copper bolt of Utah Lake Compromise Monument. Its elevation is 10.50 feet above the zero of the gage.

There is practically no natural flow in Jordan River the greater part of the year, and in order to utilize the water of Utah Lake in irrigation work the water is raised by means of a dam and pumping station a short distance above the gaging station, so as to make an artificial flow.

The observations at this station during 1904 have been made under the direction of G. L. Swendsen, district engineer.

The gage reading for the lake at Compromise Level would be 4.52.

This gage height would indicate a discharge of 510 second-feet, with the conditions at the gaging station the same as in 1904. This would be the discharge with unobstructed flow, i. e., with the pumping station removed.

DISCHARGE MEASUREMENTS  
Of Jordan River, near Lehi, Utah, in 1904.

Date.	Hydrographer.	Area of section.	Mean velocity.	Gage height.	Discharge.
		Square ft.	Ft. per sec.	Feet.	Second-ft.
May 28*	W. Swendsen	252	1.62	3.95	410
May 30*	do	252	1.62	3.95	416
June 14*	H. S. Kleinschmidt	236	1.80	4.00	426
June 20*	do	237	1.80	4.00	428
July 30*	C. Tanner	245	1.68	3.92	412
October 13†	W. D. Beers and E. F. Tabor.	214	1.40	3.27	301
October 13†	do	214	1.37	3.27	203
October 13‡	do	195	1.02	2.95	200
October 14§	do	149	.76	2.02	114
October 14§	do	146	.76	1.97	110
October 15†	do	216	1.41	3.30	305
December 23	W. Swendsen	81	.38	1.01	31

\*Four pumps running.

†Three pumps running.

‡Measurement uncertain on account of change in cross section of stream.

§One pump running.

MEAN DAILY GAGE HEIGHT  
In feet, of Jordan River, near Lehi, Utah, for 1904.

Day.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.
1		4.10	3.95	3.95	3.85	3.35	0.80	0.00
2		4.00	3.95	3.00	3.85	3.35	.80	.90
3		4.05	3.95	*	3.85	3.30	.80	.90
4		4.05	4.00	3.00	3.85	3.35	.80	.90
5		4.00	3.05	3.00	3.85	3.35	.80	.90
6		3.95	4.00	3.00	3.80	*	.80	.90
7		4.05	3.95	3.07	3.85	*	.80	.90
8		4.10	3.95	3.00	3.85	3.40	.80	.90
9		3.95	3.95	3.00	3.85	3.35	.80	.90
10		4.05	3.72	3.00	3.90	3.35	.85	.90
11		4.05	3.95	3.00	3.80	3.30	.85	.90
12		4.00	4.10	*	3.85	3.30	.85	.90
13		4.00	4.00	*	3.90	3.35	.85	.90
14		4.05	4.00	3.00	*	†	.85	.90
15		4.00	4.00	3.85	3.85	-----	.85	.90
16		3.95	3.90	3.00	3.85	-----	.85	.95
17		4.00	3.95	3.00	3.80	.75	.85	.95
18		3.95	3.95	3.85	3.75	.75	.90	.95
19		3.70	3.95	3.85	3.85	.75	.90	.95
20		3.95	3.90	3.95	3.80	.75	.90	1.00
21		3.95	3.95	3.85	3.80	.75	.90	1.00
22		4.05	4.00	3.85	3.75	.75	.90	1.00
23		4.00	3.90	3.85	3.80	†	.90	1.00
24		4.00	3.90	3.85	3.80	-----	.90	1.00
25		4.00	*	3.85	3.80	-----	.90	1.00
26		4.00	3.95	3.00	3.85	-----	.90	1.00
27		4.00	3.95	3.85	3.90	-----	.90	1.00
28		3.95	3.95	3.90	3.80	-----	.90	1.00
29		4.00	4.00	3.75	3.80	.80	.90	1.00
30		3.95	3.95	3.90	3.85	.80	.90	1.00
31		3.95	-----	3.90	3.90	.80	-----	1.15

\*Discharge interpolated.

†Outlet gates shut down.

**RATING TABLE**  
For Jordan River, near Lehi, from January 1 to December 31, 1904.

Gage height.	Discharge.	Gage height.	Discharge.	Gage height.	Discharge.	Gage height.	Discharge.
Feet.	Sec.-feet.	Feet.	Sec.-feet.	Feet.	Sec.-feet.	Feet.	Sec.-feet.
0.70	22	1.30	47	2.30	148	3.30	302
.75	23	1.40	55	2.40	161	3.40	320
.80	24	1.50	63	2.50	175	3.50	337
.85	25	1.60	71	2.60	189	3.60	354
.90	26	1.70	81	2.70	204	3.70	371
.95	28	1.80	91	2.80	219	3.80	388
1.00	30	1.90	101	2.90	235	3.90	406
1.05	33	2.00	111	3.00	252	4.00	423
1.10	36	2.10	122	3.10	268	4.10	440
1.20	41	2.20	135	3.20	285	4.20	456

The above table is applicable only for open-channel conditions. It is based upon 11 discharge measurements made during 1904. It is well defined between gage heights 1.00 foot and 4.00 feet. The table has been extended beyond these limits. Above gage height 3.00 feet the rating curve is a tangent, the difference being 17 plus per tenth.

**ESTIMATED MONTHLY DISCHARGE**  
Of Jordan River, near Lehi, Utah, for 1904.

Month.	Discharge in second-feet.			Total in acre-feet.
	Maximum.	Minimum.	Mean.	
May	414	250	304	18,000
June	440	371	422	25,110
July	440	354	410	25,210
August	414	367	402	24,720
September	400	320	362	23,930
October, 22 days	320	23	102	8,303
November	20	24	25.1	1,401
December	38	20	28.1	1,728
The period				128,000

MISCELLANEOUS MEASUREMENTS  
In Jordan River basin in 1904.  
(By Caleb Tanner.)

Date.	Stream.	Locality.	Width	Area of section.	Mean velocity.	Discharge
			Feet.	Sq. feet.	Ft. per second	Sec.-feet.
Dec. 7	Jordan River	Hub dairy, Salt Lake City, Utah.	54	125	1.53	190
Dec. 7	do	Above Little Cottonwood Creek.	40	51	1.21	61
Dec. 7	do	Near sewer farm	103	203	1.05	214
Dec. 6	Big Cottonwood Creek	One-fourth mile above mouth.	26	28	1.83	51
Dec. 6	Decker Lake outlet	At Redwood road crossing.	5.5	3.6	.82	3
Dec. 7	Hot Spring Lake outlet	North of Salt Lake City, Utah.	17	8.2	.93	8
Dec. 6	Little Cottonwood Creek	Near mouth	12	6.9	1.18	8
Dec. 6	Mill Creek	do	8.5	9.1	2.62	24
Dec. 6	North Branch of Parley's Creek	do	6.0	3.0	.86	3
Dec. 6	South Branch of Parley's Creek	do	8.0	4.3	1.44	6
Dec. 6	Taylorsville roller mill flume.	Opposite Little Cottonwood Creek.	6.8	23	1.70	30

UTAH LAKE,  
At Pumping Plant,  
Gage heights in feet.

These gage heights are taken from the City Engineer's record. The figure 45 is to be prefixed to all readings, which then show the elevation of the lake above sea-level, for instance, February 1, 1900, read 4515.35, etc.

	1900	1901	1902	1903	1904	1905	1906
January 1	-----	13.40	13.15	12.05	11.60	12.42	11.55
January 15	-----	13.60	13.30	12.25	11.80	12.65	11.72
February 1	15.35	13.75	13.45	12.50	12.02	12.85	12.05
February 15	15.30	13.95	13.60	12.75	12.20	13.23	12.23
March 1	15.35	14.35	13.85	12.90	12.63	13.30	12.50
March 15	15.35	14.40	13.90	-----	12.95	13.50	12.66
April 1	15.40	14.55	14.00	13.65	13.43	13.75	13.00
April 15	15.35	14.60	14.05	13.70	13.64	14.00	13.37
May 1	15.38	14.55	13.95	13.65	13.75	14.05	13.80
May 15	15.15	14.57	13.90	13.45	13.89	13.95	14.05
June 1	15.08	14.60	13.87	13.50	14.20	13.00	14.35
June 15	14.90	14.40	13.75	13.50	14.15	13.45	14.47
July 1	14.50	14.00	13.50	13.15	14.00	12.90	14.30
July 15	14.20	13.75	13.20	12.70	13.60	12.45	14.08
August 1	13.85	13.45	12.88	12.35	13.20	11.05	13.65
August 15	13.60	13.22	12.70	11.95	12.00	11.55	13.39
September 1	13.22	13.10	-----	11.57	12.55	11.22	13.22
September 15	12.05	12.85	-----	11.30	12.35	10.95	13.15
October 1	12.80	12.70	11.85	-----	12.13	10.75	13.05
October 15	12.75	12.60	11.70	11.10	12.05	10.82	12.00
November 1	12.75	12.70	11.60	11.15	12.08	11.00	13.05
November 15	12.83	12.75	11.63	11.23	12.10	11.10	13.15
December 1	13.15	12.85	11.70	11.32	12.18	11.27	13.43
December 15	13.25	13.00	11.90	11.45	12.25	11.38	13.60

Compromise Level--4515.779.

1

EVAPORATION

Of Utah Lake, from record of Louis C. Kelsey, City Engineer, Salt Lake City.

Year.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.	Total
1901	-----	-----	-----	.417	.613	.732	.635	.430	.515	.301	.131	.002	3.020
1902	.082	.015	.152	.330	.528	.783	.747	.705	.758	.308	-----	-----	4.504
1903	.000	.000	.038	.405	.471	.683	.670	.660	.391	.301	.121	.004	4.053
Mean	.011	.008	.005	.386	.517	.733	.781	.631	.561	.327	.128	.018	4.202

### Jordan River in Jordan Narrows.

The following tables of daily discharge of the Jordan River are taken from reports by J. Fewson Smith, Jr., Water Commissioner, Jordan District, Salt Lake County.

The discharge represents the total flow from Utah Lake, including seepage, between the head of the river and the "Jordan River Weir," which is located below the head of the four main canals, viz:

The East Jordan Canal, The South Jordan Canal, The Utah and Salt Lake Canal, and the City Canal.

The pumping station at the head of the Jordan River was installed during 1902, and began pumping water from the lake to supply the Jordan River canals on August 11, 1902.

**DAILY DISCHARGE**  
Of Jordan River, in Jordan Narrows, for 1901.  
(Just above head of canals.)

Day.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
1							*228	*158	*117	70	45	
2							233	158	115	78	15	
3							*226	*153	107	84	44	
4							*219	140	100	70	44	
5							*212	*140	107	74	46	
6							204	*140	117	*70	38	
7							*210	150	91	77		
8							*216	*146	*88	78		
9							221	143	80	78		
10							*214	143	80	50		
11							207	*140	93	07		
12							*200	136	98	60		
13							*194	*138	91	66		
14							*188	130	93	70		
15							*183	137	95	78		
16							170	*137	92	*07		
17							*177	138	90	*50		
18							*175	138	88	44		
19							173	132	88	46		
20							*173	142	96	43		
21							*173	*136	111	44		
22							*173	*130	78	43		
23							173	125	80	44		
24							*173	130	95	50		
25							*172	*124	88	44		
26							172	*118	90	43		
27							174	111	80	58		
28							167	117	70	54		
29							210	158	110	*80	57	
30							*210	165	127	82	40	
31							*222	158	110	43		
Mean							185	134	92	61		

\*Interpolated value.

**ESTIMATED MONTHLY DISCHARGE**  
**Of Jordan River, in Jordan Narrows, State of Utah, for 1901.**  
**(Just above head of canals.)**

Month.	Discharge in second-feet,			Total in acre-feet.
	Maximum.	Minimum.	Mean.	
July	233	158	185	11,375
August	158	111	134	8,245
September	117	78	92	5,475
October	84	43	61	3,750

**DAILY DISCHARGE**  
**Of Jordan River, in Jordan Narrows., for 1902.**

Day.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
1	69				215	223	132	86	215	142		
2	*64				127	100	151	88	210	204		
3	*59	43			187	216	127	88	223	280		
4	*55				191	106	135	80	213	325		
5	51		44		200	197	137	70	173	328		
6	51				200	196	135	64	104	338		
7	*54				200	193	124	66	206	330		
8	*57				109	203	102	60	107	311		
9	*61				205	202	117	70	210	308		
10	*65		42		215	198	121	82	245	327		
11	69	44			214	200	127	105	227	328		
12	*69				219	205	125	80	254	324		
13	*70				216	216	121	133	272	327		
14	70				213	144	120	107	252	351		
15	66		43	95	207	176	122	177	259	323		
16	*69		44	191	109	163	116	235	263	301		
17	*69				241	185	127	104	147	230	202	
18	*69	44			245	160	183	86	163	263	240	
19	66				275	140	160	106	180	256	201	
20	*53		43	213	178	150	100	210	233	303		
21	49				324	180	165	105	223	220	331	
22	*49		42	212	184	174	102	206	279	209		
23	*50		42	232	185	212	96	104	262	285		
24	51	43			275	207	141	98	223	340	306	
25	*51				235	207	100	97	251	252	202	
26	51	43			202	201	131	90	245	100	205	
27	44				107	211	153	98	220	200	203	
28	*44				100	204	96	100	223	100	278	
29	*44				200	252	120	103	220	182	102	
30	*44				195	270	110	95	145	233	220	
31	44				301		89	120		256		
Mean	68	43	43	210	107	173	113	160	236	201		

\*Interpolated values.

†Lake pumps started Aug. 11.

‡On and after Jan. 20 river flow, exclusive of that used by power plant, was held in storage in Utah Lake.

**ESTIMATED MONTHLY DISCHARGE**  
Of Jordan River, in Jordan Narrows, Utah, for 1902.

Month.	Discharge in second-feet.			Total in acre-feet.
	Maximum.	Minimum.	Mean.	
January	70	44	58	3,566
February	43	43	43	2,388
March	44	42	43	2,644
April	324	95	219	13,032
May	301	127	197	12,115
June	223	96	173	10,295
July	151	89	113	6,950
August	251	64	150	9,223
September	340	173	236	14,045
October	351	142	201	17,280
The period	351	42	152	91,538

**DAILY DISCHARGE**  
Of Jordan River, in Jordan Narrows, for 1903.

Day.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
1					422	413	400	288	308	4		
2					26	417	381	382	146	308	3	
3					34	413	411	377	23	283	1	
4					90	425	420	375	15	257	2	
5					313	405	413	374	37	204	2	
6					21	330	414	423	375		211	3
7						331	328	369	351		162	3
8						307	320	415	244	128	241	3
9						403	312	420	356	101	245	5
10						400	253	431	363	115	244	5
11						407	317	417	360	89	155	5
12						422	330	406	358	105	142	4
13						15	415	330	400	353	136	172
14						35	400	329	392	345	148	102
15						40	410	319	307	362	107	112
16						40	412	331	366	360	140	37
17						47	410	337	366	338	154	18
18						53	419	330	368	340	160	9
19						60	100	337	417	342	180	9
20						70	150	343	401	184	180	8
21							368	360	412	284	170	7
22							342	420	410	351	175	6
23							311	408	360	333	174	5
24							341	413	360	368	181	5
25							350	420	375	342	234	5
26							301	377	375	170	173	4
27							335	300	378	60	248	4
28							330	424	371	120	305	3
29							280	415	382	144	313	3
30							305	407	384	250	287	4
31							402	-----	344	287	-----	3
Mean						342	372	400	310	165	140	*4

\*Assumed.

**ESTIMATED MONTHLY DISCHARGE**  
**Of Jordan River, in Jordan Narrows, Utah, for 1903.**

Month.	Discharge in second-feet.			Total in acre-feet.
	Maximum.	Minimum.	Mean.	
May	422	26	342	21,030
June	426	253	372	22,135
July	423	369	400	24,595
August	409	60	310	19,061
September	313	15	165	9,820
October	308	3	140	8,608
November			4	238
The period	426	3	262	105,487

**DAILY DISCHARGE**  
**Of Jordan River, in Jordan Narrows, for 1904.**

Day.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
1					150	417	412	384	301	277		
2					205	438	408	390	383	280		
3					301	430	407	390	389	273		
4					401	435	417	393	400	263		
5					97	427	400	403	390	263		
6					51	421	394	409	367	273		
7					32	380	402	385	384	277		
8					39	423	405	398	386	280		
9					147	431	404	403	384	293		
10					148	419	389	401	302	202		
11					123	413	386	301	306	202		
12					131	434	396	306	389	205		
13					1,08	421	410	405	283	380		
14					200	414	413	398	360	186		
15					197	417	407	402	373	204		
16					270	418	388	401	381			
17					304	413	402	386	385			
18					293	421	403	387	304			
19					284	400	394	396	328			
20					309	410	307	386	385			
21					300	410	308	387	386			
22					310	418	393	392	380			
23					111	306	412	391	411	385		
24					122	320	397	385	396	385		
25					130	325	422	398	403	302		
26					141	321	424	401	401	380		
27					147	423	424	401	383	380		
28					141	450	421	405	323	393		
29					128	433	423	370	300	380		
30					127	428	418	402	302	315		
31					420		405	392				
Mean					132	258	410	410	392	383		

**ESTIMATED MONTHLY DISCHARGE  
Of Jordan River, in Jordan Narrows, Utah, for 1904.**

Month.	Discharge in second-feet.			Total in acre-feet.
	Maximum.	Minimum.	Mean.	
May -----	450	32	258	15,865
June -----	438	380	419	24,935
July -----	417	379	410	25,210
August -----	411	323	392	24,105
September -----	400	315	383	22,700
October 1-15 -----	295	186	273	9,120
The period-----	450	186	356	122,025

**DAILY DISCHARGE  
Of Jordan River, in Jordan Narrows, for 1905.**

Day.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
1-----					67	400	470	475	370	443		
2-----					309	401	484	478	396	434		
3-----					238	375	400	476	397	301		
4-----					274	354	492	471	410	229		
5-----					280	351	484	447	415	192		
6-----					341	388	483	466	357	192		
7-----					300	432	478	466	400	188		
8-----					403	486	450	447	427	115		
9-----					381	480	485	445	447	183		
10-----					382	405	483	431	445	193		
11-----					385	529	482	435	413	193		
12-----					300	521	480	427	402	190		
13-----					300	518	496	440	420	137		
14-----					308	517	483	410	418	107		
15-----					300	500	516	422	412	170		
16-----					401	510	508	411	420	91		
17-----					380	480	505	399	203	70		
18-----					397	520	498	410	281	58		
19-----					401	517	488	410	322	20		
20-----					360	500	475	425	315	12		
21-----					350	507	477	423	315	10		
22-----					385	501	483	397	318			
23-----					303	501	488	378	324			
24-----					385	401	482	399	330			
25-----					415	510	473	408	203			
26-----					440	490	470	407	308			
27-----					441	502	476	434	322			
28-----					434	477	402	422	327			
29-----					412	492	460	413	257			
30-----					400	401	470	415	310			
31-----					403	470	308					
Mean -----					370	470	483	428	301	128		

**ESTIMATED MONTHLY DISCHARGE  
Of Jordan River, in Jordan Narrows, for 1905.  
(Just above head of canals.)**

Month.	Discharge in second-feet.			Total in acre-feet.
	Maximum.	Minimum.	Mean.	
May	446	67	370	22,750
June	529	351	476	28,320
July	516	456	483	29,700
August	478	368	428	26,320
September	447	257	361	21,480
October 1-21	443	10	128	5,330
The period	529	10	374	133,000

**DAILY DISCHARGE  
Of Jordan River, in Jordan Narrows, for 1906.**

Day.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
1					85	227	498	197	375	309		
2					82	370	500	270	334	303		
3					70	416	507	300	321	284		
4					76	429	511	203	344	305		
5					62	475	511	413	303	309		
6					87	413	507	482	308	306		
7					121	439	512	489	315	301		
8					221	427	496	404	308	302		
9					302	437	483	480	315	303		
10					307	414	448	405	314	307		
11					401	518	473	487	316	307		
12					303	512	502	482	309	240		
13					420	501	500	459	323	302		
14					413	521	502	432	315	310		
15					403	527	495	486	313	307		
16					454	518	470	400	304	01		
17					404	532	475	487	306	24		
18					382	532	409	505	280			
19					418	510	400	464	241			
20					540	525	488	428	234			
21					528	516	487	158	226			
22					512	400	401	105	220			
23					400	514	311	45	210			
24					406	520	443	50	226			
25					510	517	471	222	301			
26					405	516	473	304	311			
27					410	510	400	297	314			
28					473	515	397	313	312			
29					300	520	400	304	300			
30					252	554	408	374	303			
31					234	-----	377	352	-----			
Mean					355	484	470	374	302	273		

**ESTIMATED MONTHLY DISCHARGE  
Of Jordan River, in Jordan Narrows, for 1906.  
(Just above head of canals.)**

Month.	Discharge in second feet.			Total in acre-feet.
	Maximum.	Minimum.	Mean.	
May	542	62	355	21,830
June	554	227	484	28,800
July	512	311	470	28,900
August	505	45	374	22,900
September	393	210	302	17,970
October 1-17	309	24	273	9,200
The period	554	24	376	120,690

## AMERICAN FORK BASIN.

### American Fork, near American Fork, Utah.

American Fork drains a rough, broken, limestone country, mostly of high altitude, comprising a portion of the western slopes of the Wasatch Mountains. The stream is confined to a steep, narrow canyon, and receives few tributaries, its normal flow being derived almost entirely from springs. There are no storage reservoirs, swamps or lakes in the area, and the timber growth is scanty. The entire summer flow is diverted for irrigation near the mouth of the canyon, the winter flow and a part of the spring flow is discharged into Utah Lake.

The station was established May 21, 1900. It is located almost six miles northeast of the town of American Fork, Utah, fifty feet north of the county road, and 200 feet southwest of the electric power house.

Measurements are made over a sharp-crested rectangular weir. A nail driven into the weir structure just south of the south opening, and level with the crest of the weir, serves to determine gage heights, which are read daily by Peter Anderson. During floods considerable gravel is deposited in the weir approach, making measurements at such times erroneous; this condition is partly overcome by raising the crest and sluicing out the deposit.

Information regarding this station is contained in the following publications of the United States Geological Survey (Ann—Annual Report; WS—Water-Supply Paper.)

Description: Ann 20, iv, p 469; WS 51, pp 417-418; 66, p 124; 100, p 139, 133, pp 260-261.

Discharge: WS 51, p 418; 66, p 124; 100 p 140.

Discharge, daily mean: WS 133, p 260.

Discharge monthly: Ann 13, iii, p 96; 20, iv, p 469; WS 75, p 195; 133, pp 260-261.

Discharge, yearly: Ann 13, iii, p 99; 20, iv, p 61.

Gage Heights: WS 51, p 419; 66, p 124; 100, p 140; 133, p 259.

Routing table: WS 66, p 176; 12, ii, p 361.

**DISCHARGE MEASUREMENTS**  
**Of American Fork River, at American Fork, for 1900.**

Date.	Hydrographer.	Gage height. Feet.	Discharge Second-ft.
May 21	C. C. Babb	0.70	138
July 13	W. P. Hardesty	0.39	42
September 5	do.	0.25	26
November 14	do.	0.29	24

**DAILY GAGE HEIGHT.**  
**Of American Fork River, at American Fork, Utah, for 1900.**

Day.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
1					.80	.50	.31	.25	.30	.33	.32	
2					.85		.30	.25			.33	
3					.83			.26				
4					.80			.28				
5					.75	.50		.27				
6					.70	.48						
7					.70	.48						
8					.78	.42		.27				
9					.78	.40		.30				
10					.65		.30			.33		
11					.60		.20			.32		
12											.32	
13											.30	
14												
15					.60		.29	.30				
16					.58		.28	.25				
17					.56			.24			.33	
18					.58		.28				*.37	
19					.51		.24	.24	.30			
20					.53	.40		.27	.35			
21					0.73	.55	.30		.30	.33		.37
22					.75	.50	.33					.30
23					.70	.45	.34	.24	.30			
24					.85	.43	.35	.25	.38		.30	.36
25					.90	.53			.30		.32	.37
26					1.03	.50		.25				.30
27					1.03			.28				*5.30
28					.98		.35					*5.29
29					.90		.31	.28				*5.28
30					.90	.50		.27	.30		.32	*5.34
31					80		.34	.20		.33		*5.34

\*At New Station on Weir. \*\*At Old Station.

**ESTIMATED MONTHLY DISCHARGE  
Of American Fork River, at American Fork, Utah, for 1900.  
(Drainage area, 66 square miles.)**

Month.	Discharge in Second-Foot.			Total in Sec. Feet	Rate-G.C.	
	Mass.	Mil.	Sec.		Sec. \$5.00 Mil. mille.	Draught in Inches.
June	213	54	111	6,016	1.68	1.87
July	67	34	45	2,767	.68	.78
Aug.	27	23	26	1,599	.39	.45
Sept.	43	23	26	1,547	.39	.44
Oct.	34	27	30	1,845	.45	.52
Nov.	34	27	29	1,726	.44	.49
Dec.	34	27	33	2,029	.50	.58

**DAILY GAGE HEIGHT**  
Of American Fork River, near American Fork, Utah, for 1901.

**ESTIMATED MONTHLY DISCHARGE  
Of American Fork River, near American Fork, Utah, for 1901.  
(Drainage area, 66 square miles.)**

Month.	Discharge in Second-Feet.			Total in Acre Feet.	Run-Off.	
	Maximum.	Minimum.	Mean.		Sec.-ft. per Sq. mile.	Depth in Inches.
Jan. -----	34	34	34	2,091	.52	.66
Feb. -----	43	27	36	1,999	.55	.57
March -----	43	34	36	2,213	.55	.59
April -----	-----	-----	125	5,206	1.89	2.11
May -----	-----	-----	582	20,779	8.82	11.31

**DISCHARGE MEASUREMENTS  
Of American Fork River, near American Fork, Utah, in 1903.**

Date.	Hydrographer.	Gage height, Feet.	Discharge Second-ft.
April 6-----	C. Tanner -----	0.49	*24
December 1-----	do -----	.34	*22

\*Weir Measurement.

**MEAN DAILY GAGE HEIGHT  
In feet, of American Fork River, near American Fork, Utah, for 1903.**

Day.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
1 -----	-----	0.63	1.30	0.94	0.46	0.33	0.46	0.35	0.34
2 -----	-----	.08	1.44	.90	.45	.33	.44	.35	.33
3 -----	-----	.77	1.43	-----	.45	.33	.43	.35	.30
4 -----	-----	.82	1.45	-----	.44	.33	.41	.35	.30
5 -----	-----	.88	1.50	.76	.44	.33	.41	.35	.27
6 -----	0.49	.92	1.56	.79	.42	.33	.42	.34	.28
7 -----	.35	.96	1.57	.76	.41	.33	.40	.34	.30
8 -----	.33	.02	1.59	.74	.41	.33	.40	.34	.30
9 -----	.30	.05	1.63	.72	.41	.33	.40	.34	.30
10 -----	.43	.08	1.52	.71	.41	.33	.40	.33	.31
11 -----	.42	.09	1.48	.70	.42	.33	.43	.33	.31
12 -----	.40	1.11	1.50	.70	.40	.33	.42	.30	.31
13 -----	.43	1.25	1.44	.70	.40	.33	.41	.38	.31
14 -----	.44	1.33	1.48	.68	.39	.32	.40	.37	.31
15 -----	.40	1.20	1.37	.66	.39	.32	.40	.36	.31
16 -----	.41	1.25	1.48	.66	.38	.32	.39	.35	.31
17 -----	.42	1.07	1.50	.64	.38	.32	.39	.33	.31
18 -----	.44	.95	1.52	.64	.37	.32	.39	.32	.31
19 -----	.40	.84	1.41	.64	.37	.32	.39	.34	.31
20 -----	.42	.78	1.31	.60	.37	-----	.38	.34	.31
21 -----	.41	.78	1.32	.58	.37	-----	.38	.34	.31
22 -----	.50	.70	1.30	.56	.36	-----	.38	.34	.30
23 -----	.60	.72	1.35	.55	.36	-----	.37	.34	.31
24 -----	.75	.74	1.32	.52	.36	-----	.37	.35	.31
25 -----	.81	.71	1.32	.52	.36	-----	.37	.34	.31
26 -----	.87	.74	1.02	.50	.35	-----	.37	.33	.31
27 -----	.80	.81	1.01	.49	.35	-----	.36	.32	.30
28 -----	.70	.81	1.05	.48	.31	-----	.36	.34	.30
29 -----	.61	.85	1.02	.48	.35	-----	.36	.34	-----
30 -----	.50	1.01	.98	.47	.33	-----	.35	.34	-----
31 -----	-----	1.16	-----	.45	.33	-----	.35	-----	-----

**ESTIMATED MONTHLY DISCHARGE  
Of American Fork River, near American Fork, Utah, for 1903.  
(Drainage area, 66 square miles.)**

Month.	Discharge in Second-Feet.			Acre Feet.	Run-Off.	
	Maximum.	Minimum.	Mean.		Sec. ft. per Sq. mile.	Depth in Inches.
April 6-30	111	27	52.7	2,613	.798	.742
May	208	69	122	7,501	1.85	2.13
June	280	133	213	12,670	3.23	3.60
July	125	42	73.2	4,501	1.11	1.28
Aug.	43	27	34.5	2,121	.523	.603
Sept.	33	26	27.9	1,660	.423	.472
Oct.	34	22	26.4	1,023	.400	.461
Nov.	25	20	21.4	1,273	.324	.362
Dec.	21	16	18.6	1,144	.282	.325
The period	280	16	65.5	35,110	0.993	0.98

The observations at this station during 1904 have been made under the direction of G. L. Swendsen, district engineer.

**MEAN DAILY GAGE HEIGHT  
In feet, of American Fork River, near American Fork, Utah, for 1904.**

Day.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
1	0.27	—	0.27	—	0.88	—	1.05	0.58	0.40	0.48	0.46	0.41
2	—	0.27	0.28	0.27	—	.82	1.04	0.58	.45	.47	.45	.41
3	—	0.27	0.28	0.27	0.35	.78	1.02	0.58	.45	.47	.45	.40
4	—	0.27	0.28	0.27	0.35	.83	1.00	0.57	.44	.47	.44	.40
5	—	0.27	0.27	0.27	0.35	.87	—	.98	.50	.44	.47	.44
6	—	0.27	0.28	0.26	0.30	.95	—	.90	.55	.44	.48	.44
7	—	0.28	0.27	0.27	0.30	1.00	—	.94	.53	.44	.48	.44
8	—	0.28	0.27	0.30	0.37	1.01	—	.90	.53	.43	.48	.44
9	—	0.28	0.27	0.32	0.38	.99	—	.87	.53	.43	.48	.44
10	—	0.28	0.27	0.32	—	1.00	—	.87	.53	.43	.47	.44
11	—	0.28	0.27	0.32	—	1.10	—	.83	.53	.43	.47	.44
12	—	0.28	0.27	0.31	—	1.22	—	.83	.53	.43	.53	.44
13	—	0.29	0.27	0.31	—	1.25	—	.80	.60	.43	.49	.37
14	—	0.29	0.27	0.31	—	1.28	1.22	.78	.56	.43	.61	.43
15	—	0.29	0.27	0.31	—	1.30	1.17	.78	.56	.42	.56	.41
16	—	0.29	0.27	0.31	—	1.44	1.22	.73	.56	.42	.59	.42
17	—	0.29	0.27	—	—	1.42	1.24	.74	.56	.42	.60	.41
18	—	0.29	0.27	0.32	—	1.45	1.22	.69	.55	.42	.49	.38
19	—	0.29	0.27	0.32	—	1.48	1.22	.68	.53	.42	.49	.39
20	—	0.29	0.27	0.32	—	1.30	1.24	.67	.52	.40	.47	.41
21	—	0.29	0.27	0.33	—	1.25	1.17	.66	.51	.47	.47	.41
22	—	0.29	0.27	0.33	—	1.30	1.16	.66	.48	.47	.47	.40
23	—	0.29	0.28	0.32	—	1.30	1.09	.65	.47	.47	.41	.40
24	—	0.28	0.28	0.32	0.60	1.71	1.03	.61	.48	.47	.47	.40
25	—	0.27	0.28	0.32	0.62	2.01	.97	.63	.48	.48	.47	.39
26	—	0.27	0.28	0.32	0.65	—	.99	.61	.48	.40	.47	.39
27	—	0.28	0.28	0.32	0.65	—	1.03	.61	.48	.40	.47	.39
28	—	0.28	0.28	0.32	0.68	—	1.03	.61	.48	.40	.47	.39
29	—	0.28	0.28	0.37	0.80	—	1.05	.61	.48	.40	.47	.39
30	—	0.28	—	0.37	0.80	—	1.05	.61	.47	.48	.40	.41
31	—	0.28	—	0.36	—	—	.61	.47	—	.46	—	.39

NOTE.—Total width of weir, April 15 to September 20 = 42 feet (10 end contractions). Remainder of Year = 33 feet (10 end contractions).

**MEAN DAILY DISCHARGE**  
 In second-feet, of American Fork River, near American Fork, Utah, for  
 1904.

Day.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
1	15	*16	15	*23	113	*310	147	61	43	36	34	28
2	15	16	15	*23	102	*301	145	61	42	35	33	28
3	15	16	15	23	95	*291	141	61	42	35	33	27
4	15	16	15	23	104	*281	137	59	40	35	32	27
5	15	15	15	23	111	*271	133	58	40	35	32	23
6	15	16	15	23	127	*261	129	56	40	33	32	24
7	16	15	15	23	137	*252	125	53	40	36	32	24
8	16	15	18	24	139	*242	117	53	39	36	32	24
9	16	15	20	25	135	*232	111	53	39	36	32	24
10	16	15	20	*28	155	*222	111	53	39	35	32	24
11	16	15	20	*30	176	*212	104	53	39	35	32	24
12	16	15	19	*33	183	*203	104	53	39	41	32	24
13	17	15	19	*35	190	193	98	64	39	37	31	25
14	17	15	19	*38	196	183	95	58	39	39	30	26
15	*17	*15	19	*41	201	172	95	58	38	38	28	27
16	17	15	19	*43	233	183	86	58	38	38	30	27
17	17	15	*19	*46	229	187	87	58	38	38	28	25
18	17	15	20	*45	236	183	79	56	38	37	28	25
19	17	15	20	*51	243	183	77	53	38	37	28	26
20	17	15	20	*54	222	187	75	53	34	35	28	26
21	17	15	21	*56	187	172	74	50	35	35	28	26
22	17	15	21	*59	201	170	74	46	35	35	28	27
23	17	16	20	*61	222	155	72	44	35	35	28	27
24	*16	16	20	64	209	143	71	46	35	35	28	27
25	15	16	20	67	379	131	69	46	36	35	28	26
26	15	16	20	72	*369	135	66	46	37	35	28	23
27	16	16	20	77	*350	143	66	46	37	35	28	18
28	16	16	*22	87	350	147	66	46	37	35	28	25
29	16	16	24	98	*340	145	67	46	37	34	28	25
30	16	-----	24	109	*330	147	66	44	36	34	28	26
31	16	-----	23	-----	*320	-----	66	44	-----	34	-----	26

\*Discharge estimated.

**ESTIMATED MONTHLY DISCHARGE**  
 Of American Fork River, near American Fork, Utah, for 1904.  
 (Drainage area, 66 square miles.)

Month.	Discharge in Second-Feet.			Aero. Feet.	Sec. ft. per Sq. mile.	Run-Off, Depth in Inches.
	Maximum.	Minimum.	Mean.			
Jan.	17	15	16.1	900	0.244	0.281
Feb.	16	15	15.4	888	.233	.251
March	24	15	19.1	4,174	.280	.333
April	100	23	46.9	2,701	.711	.703
May	370	95	210	13,280	3.27	3.77
June	310	131	201	11,000	3.05	3.40
July	147	66	95.3	5,800	1.44	1.66
Aug.	64	44	52.8	3,247	.800	.922
Sept.	43	35	38.1	2,267	.577	.611
Oct.	41	34	35.0	2,207	.514	.627
Nov.	34	28	30.0	1,785	.451	.507
Dec.	28	18	25.3	1,556	.383	.442
The year.	370	15	66.0	48,000	1.00	13.02

## DAILY GAGE HEIGHT

In feet, of American Fork River, near American Fork, Utah, for 19<sup>45</sup>.

Day.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
1	.30	.38	.40	.38	.90	1.36	0.90	0.48	0.36	0.43	0.37	0.33
2	.40	.39	.40	.38	.84	1.34	.85	.48	.36	.42	.37	.34
3	.39	.38	.41	.38	.76	1.45	.85	.47	.36	.41	.37	.34
4	.40	.37	.41	.38	.73	1.39	.79	.47	.38	.41	.37	.31
5	.41	—	.41	.41	.69	1.39	.79	.47	.39	.40	.37	.31
6	.39	.37	.42	.43	.66	1.39	.77	.46	.40	.39	.37	.29
7	.39	.38	.44	.52	.66	1.41	.75	.46	.39	.39	.37	.29
8	.37	.37	.43	.52	.68	1.57	.78	.46	.38	.40	.37	.31
9	.38	.37	.43	—	.69	1.45	.77	.45	.37	.39	.36	.31
10	.38	.38	.43	.58	.68	1.35	.74	.44	.36	.39	.36	.31
11	.37	.38	.43	.52	.60	1.35	.75	.44	.36	.39	.36	.31
12	.38	.23	.44	.50	.60	1.41	.73	.43	.35	.38	.36	.31
13	.38	.33	.44	.49	.62	1.50	.72	.41	.35	.38	.36	.31
14	.38	.37	.44	.50	.63	1.50	.71	.41	.35	.38	.36	.31
15	.38	.37	.44	.51	.64	1.47	.68	.40	.35	.38	.36	.31
16	.38	.37	.44	.53	.76	1.37	.65	.40	.35	.38	.35	.31
17	.38	.37	.43	.53	.97	1.34	.65	.40	.35	.37	.35	.31
18	.38	.37	.43	.53	1.01	1.14	.62	.40	.35	.38	.35	.32
19	.37	.37	.43	.56	1.11	1.09	.60	.39	.35	.36	.33	.31
20	—	—	—	—	5.55	5.55	5.55	—	—	—	—	—
21	.35	.37	.42	.55	1.10	1.17	.56	.38	.37	.38	.36	.30
22	.38	.37	.43	.54	1.16	1.27	.55	.38	.37	.38	.30	.30
23	.38	.37	.43	.56	1.16	1.24	.53	.38	.37	.38	.36	.30
24	.37	.37	.44	.50	1.16	1.12	.52	.41	.37	.38	.35	.31
25	.37	.38	.43	.62	1.28	1.10	.51	.39	.38	.38	.35	.30
26	.37	.39	.45	.71	1.26	1.05	.49	.37	.37	.38	.35	.31
27	.37	.39	.45	.72	1.27	1.01	.49	.38	.37	.38	.33	.30
28	.37	.40	.45	.74	1.16	.96	.49	.38	.47	.38	.30	.32
29	.37	—	.45	.75	1.11	.94	.48	.41	.52	.38	.30	.32
30	.37	—	.43	.86	1.10	.92	.48	.38	.45	.38	.31	.30
31	.37	—	.43	—	1.32	—	.40	.38	—	.38	—	.32

NOTE.—January 1 to March 20 and September 28 to December 31, crest 30.5 feet long; March 30 and 31, crest 33 feet long; April 1 to September 27, crest 36.5 feet long. Ice conditions on the river affect the flow at the weir but little.

**DAILY DISCHARGE**  
 In second-feet, of American Fork River, near American Fork, Utah, for  
 1905.

Day.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
1	25	24	26	28	104	193	104	40	26	29	23	19
2	26	25	26	28	94	189	95	40	26	28	23	20
3	25	24	27	28	81	212	95	39	27	27	23	*19
4	26	23	27	28	76	199	85	39	28	27	23	18
5	27	*23	27	32	70	199	85	39	30	26	23	18
6	25	23	28	35	65	199	82	38	31	25	23	16
7	25	24	30	46	65	203	79	38	30	25	23	16
8	23	23	29	46	68	239	84	38	28	26	23	18
9	24	23	29	*50	70	212	82	37	27	25	22	18
10	24	24	29	54	68	191	77	36	26	25	22	18
11	23	24	29	46	56	191	70	35	26	25	22	18
12	24	11	30	43	56	203	76	34	25	24	22	18
13	24	19	30	42	59	223	74	32	25	24	22	18
14	24	23	30	43	61	223	73	32	25	24	22	18
15	24	23	30	44	62	217	68	31	25	24	22	18
16	24	23	30	47	81	105	64	31	25	24	21	18
17	24	23	29	47	116	189	64	31	25	23	21	18
18	24	23	29	47	123	148	59	31	25	22	21	18
19	23	23	29	51	142	136	56	30	25	22	21	18
20	23	23	29	50	152	148	51	28	25	22	22	18
21	24	23	28	50	168	154	51	28	27	24	22	17
22	24	23	29	48	152	174	50	28	27	24	22	17
23	24	23	29	51	152	108	47	28	27	24	22	17
24	23	23	30	55	152	144	46	32	27	24	21	18
25	23	24	29	59	176	140	44	30	28	24	21	17
26	23	25	31	73	172	181	42	27	27	24	21	18
27	23	25	31	74	174	123	42	28	27	24	19	17
28	23	26	31	77	152	114	42	28	33	24	17	18
29	23	-----	41	79	142	111	40	32	38	24	17	18
30	23	-----	31	97	140	107	40	28	31	24	18	17
31	23	-----	31	-----	184	-----	42	28	-----	24	-----	18

\*Discharge interpolated.

**ESTIMATED MONTHLY DISCHARGE**  
 Of American Fork River, near American Fork, Utah, for 1905.  
 (Drainage area, 66 square miles.)

Month.	Discharge in Second-Feet.			Total in Acre Feet.	Run-Off.	
	Maximum.	Minimum.	Mean.		Sec.-ft. per Sq. mile.	Depth in Inches.
Jan.	27	23	24.0	1,476	0.264	0.420
Feb.	20	11	23.0	1,277	.348	.362
March	31	20	29.2	1,705	.442	.510
April	97	28	49.0	2,060	.750	.844
May	181	60	110	6,703	1.67	1.02
June	230	107	176	10,470	2.07	2.08
July	104	40	65.1	4,003	.980	1.14
Aug.	40	27	32.7	2,011	.495	.571
Sept.	38	25	27.4	1,030	.415	.403
Oct.	20	22	24.5	1,600	.371	.428
Nov.	23	17	21.5	1,270	.320	.364
Dec.	20	10	17.8	1,004	.270	.311
The year.	230	11	50.1	30,270	.750	10.31

MONTHLY DISCHARGE  
In Thousands of acre feet, of American Fork River, near American Fork.  
(Drainage area, 60 square miles.)

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Total	Sec. Ft. per sq. Mi.	Run-Off, Depth in Inches
	1900	1901	1902	1903	1904	1905	1906	1907	1908	1909	1910	1911	1912	1913	1914
	2.00	2.00	2.21	5.21	20.73	6.02	2.78	1.60	1.55	1.85	1.73	2.03	...	...	...
1900	2.00	2.00	2.21	5.21	20.73	6.02	2.78	1.60	1.55	1.85	1.73	2.03	...	...	...
1901	2.00	2.00	2.21	5.21	20.73	7.50	12.67	4.51	2.12	1.66	1.62	1.27	1.14	...	...
1902	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
1903	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
1904	0.90	0.80	1.17	2.79	13.38	31.96	5.86	3.25	2.27	2.21	1.79	1.56	48.00	1.00	13.02
1905	1.48	1.25	1.80	2.97	6.76	19.47	4.00	2.00	1.63	1.51	1.28	1.09	36.27	0.76	10.31
1906	1.52	1.23	1.73	3.66	12.88	10.28	4.20	2.24	1.78	1.78	1.82	1.52	42.14	0.88	11.97
Mean	1.52	1.23	1.73	3.66	12.88	10.28	4.20	2.24	1.78	1.78	1.82	1.52	42.14	0.88	11.97

## PROVO RIVER BASIN.

### *Description of Basin.*

Provo River has its source in the Uinta Mountains and flows westward in a steep, narrow canyon until it reaches Heber or Provo Valley, through which it winds in a well-defined channel. Leaving the valley, it flows southwestward, cutting through the Wasatch Range in another steep, narrow, and extremely rough canyon, and finally discharging its surplus waters into Utah Lake.

In the mountain regions the principal rock is a compact limestone. Except in Heber Valley there is but little soil in any portion of the basin. Small groves of fir and aspen are, however, scattered over almost the entire area, and there is a light growth of underbrush. There are no extensive forests, meadows, or marshes. In the canyons the stream receives numerous short and swift tributaries, deriving their principal supply from springs, but a part also from the melting of the snow, which covers portions of the high mountains during the entire year. The highest peaks reach elevations of about 13,000 feet.

Heber Valley, which comprises an area of about 20 square miles, is an irrigated farming district, composed of a deposit of loose boulders, gravel, and soil, very porous. Most of the water comes from the main stream, though a part is received from small creeks which enter the valley from the south. The most important of these is Daniels Creek, into which some water is diverted from Strawberry River, a tributary of Green River, by three small canals in low passes at the head of the creek.

There are a few lakes at the head of the river, but they are so small that they probably have little effect in regulating the flow. There is no storage on the stream at present, but a few possibilities exist which will doubtless be developed in the future, as the entire stream, after being used at the mouth of the canyon for the development of power, is now utilized on lands in the vicinity of Utah Lake, and the supply is altogether insufficient.

## Provo River above Telluride Power Company's Dam near Provo, Utah.

This station was established March 1, 1905. It is located about three-fourths of a mile up the river from Upper Falls, a station on the Provo Canyon branch of the Rio Grande Western Railway, about 4 miles above the mouth of the canyon and 800 feet south of the canyon road, in J. W. Slick's pasture. It is about one-half mile above the Telluride Power Company's dam and above all diversions into Utah Lake Valley. The object of the station is the collection of data concerning the amount of water passing from the river into this valley.

The channel has a slight uniform curvature for about 200 feet above and 300 feet below the station, describing approximately the arc of a circle. Both banks are sufficiently high to prevent overflow; the left bank is formed by the Rio Grande Western Railway grade. The bed of the stream is composed of well-compacted rock and soil, is comparatively smooth, and is not liable to shift, but a slight growth of moss occurs from the time of the spring flood until freezing weather. The velocity is low near the right bank, but increases uniformly to a point near the left. The discharge may vary from 100 to 1,400 second-feet. Conditions of free flow exist except for a very short distance near the left bank.

Discharge measurements are made by means of a cable and car. The cable is marked at 4-foot intervals, beginning at the north support, which is the initial point for soundings.

Daily gage readings were made, without expense to the Geological Survey, by the Telluride Power Company, the observations being under the direction of E. A. Briscoe, an engineer at the power house about 4 miles below the station. The gage is of the inclined type and consists of a 4-by-4 inch by 16-foot fir, bolted to a vertical cedar post embedded in the bank at the water's edge and to a boxelder stump at the shore end, about 25 feet upstream from the cable on the left bank. It is graduated with saw cuts and paint to read vertically. The gage is referred to bench marks as follows: (1) A 4-inch iron pipe with a metallic cap, set  $3\frac{1}{2}$  feet in the ground at a point 12 feet from the

north cable post, under a fence; this has an elevation of 7.31 feet above gage datum and is so stamped on the top.  
 (2) A projecting point, marked with black paint, on a limestone ledge in a railroad cut about a foot above the track and 22 feet upstream from the line of the gage; elevation, 17.18 feet above datum of gage.

**DISCHARGE MEASUREMENTS**  
**Of Provo River above Telluride Power Company's dam, near Provo,  
 Utah, in 1905.**

Date	Hydrographer	Width	Area of section,	Mean	Gage	Dis-		
				Feet.	Square feet.	velocity.	height.	charge.
January 28* -	H. S. Kleinschmidt -	70	144		1.51	3.73		217
March 3 * -	W. G. Swendsen -	69	130		2.26	3.93		294
May 13 -	- do -	71	132		2.35	4.05		309
June 14 -	Hoyt & Swendsen -	75	223		3.68	5.30		820
June 22 -	- do -	71	166		2.82	4.43		469
Aug. 28*** -	A. B. Larson -	67	94		1.46	3.62		136
Sept. 27*** -	W. G. Swendsen -	67	85		1.64	3.57		139

Measurement by wading 35 feet above cable.

\*Measurement by wading approximately at present cable station.

\*\*Growing moss changed conditions.

**DAILY GAGE HEIGHT**  
**In feet, of Provo River above Telluride Power Company's dam, near  
 Provo, Utah, for 1905.**

Day.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
1 -	3.85	3.0	3.85	4.4	5.15	4.0	3.9	3.7	3.05	3.76	3.0
2 -	4.1	4.0	3.85	4.4	5.4	3.95	3.85	3.6	3.05	3.75	3.0
3 -	3.0	4.0	3.85	4.5	5.5	3.05	3.0	3.6	3.05	3.75	3.0
4 -	3.0	4.1	3.85	4.4	5.0	3.05	3.8	3.6	3.05	3.75	3.0
5 -	3.0	4.05	3.8	4.2	5.77	3.95	3.8	3.6	3.05	3.75	3.85
6 -	3.85	4.05	3.85	4.1	5.5	3.95	3.8	3.6	3.05	3.76	3.05
7 -	3.85	4.0	3.85	4.1	5.4	3.95	3.8	3.6	3.05	3.75	3.0
8 -	3.85	3.95	3.85	4.1	5.8	3.95	3.8	3.6	3.55	3.8	3.55
9 -	3.8	3.0	3.85	4.25	6.1	3.05	3.8	3.6	3.05	3.8	3.55
10 -	3.8	3.0	3.95	4.2	5.9	3.95	3.8	3.6	3.0	4.0	3.6
11 -	3.8	3.0	4.1	4.2	5.4	3.95	3.85	3.6	3.6	4.0	3.6
12 -	5.8	3.0	4.0	4.1	5.15	3.95	3.85	3.6	3.6	3.8	3.0
13 -	5.1	3.0	4.0	4.1	5.15	3.95	3.8	3.6	3.6	3.85	3.0
14 -	5.1	3.0	4.0	4.1	5.2	3.95	3.75	3.6	3.6	3.85	3.0
15 -	4.7	3.0	4.0	4.1	5.1	4.0	3.75	3.6	3.6	3.86	3.8
16 -	4.1	3.0	4.1	4.0	5.05	3.95	3.8	3.6	3.6	3.85	3.8
17 -	3.8	3.85	4.1	4.1	4.0	3.95	3.8	3.6	3.6	3.86	3.8
18 -	3.8	3.85	4.1	4.25	4.8	3.95	3.7	3.6	3.6	3.0	3.8
19 -	3.8	3.85	4.1	4.4	4.0	3.9	3.8	3.6	3.6	3.0	3.8
20 -	3.8	3.0	4.1	4.45	4.45	3.9	3.7	3.6	3.6	3.0	3.8
21 -	3.8	3.0	4.15	4.6	4.4	3.9	3.7	3.6	3.6	3.0	3.7
22 -	3.8	4.0	4.1	4.7	4.45	3.9	3.7	3.65	3.0	3.0	3.7
23 -	3.8	3.05	4.1	4.8	4.4	3.9	3.7	3.65	3.05	3.0	3.7
24 -	3.8	3.0	4.1	4.85	4.35	3.9	3.7	3.65	3.05	3.85	3.8

**DAILY GAGE HEIGHT**  
 In feet, of Provo River above Telluride Power Company's dam, near  
 Provo, Utah, for 1905.—Continued.

Day.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
25	3.8	3.9	4.1	4.8	4.35	3.9	3.7	3.6	3.65	3.85	3.8
26	3.8	3.85	4.3	4.8	4.4	3.85	3.7	3.6	3.65	3.85	3.8
27	3.85	4.0	4.3	4.9	4.1	3.85	3.65	3.6	3.65	3.85	3.8
28	3.9	3.9	4.3	5.0	4.05	3.85	3.7	3.55	3.65	3.9	3.8
29	3.9	4.3	5.1	4.0	3.85	3.65	3.7	3.7	3.7	3.9	3.8
30	3.95	4.5	4.9	4.0	3.85	3.7	3.7	3.7	3.7	3.9	3.8
31	3.9	—	4.85	—	3.9	3.7	—	3.75	—	3.8	—

Note.—Ice jam February 12, 13, 14. Open-channel conditions during the remainder of the winter months.

**DAILY DISCHARGE**  
 In second-feet, of Provo River above Telluride Power Company's dam, near  
 Provo, Utah, for 1905.

Day.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
1	254	269	254	446	763	301	245	163	150	193	244
2	335	301	254	446	579	285	237	135	150	194	245
3	269	301	254	485	926	285	243	136	100	195	245
4	269	335	254	446	973	285	212	136	160	194	245
5	269	318	238	371	1,054	284	211	137	160	194	230
6	254	318	254	335	926	284	210	137	160	194	170
7	254	301	254	335	879	283	209	138	160	194	156
8	254	285	254	335	1,069	282	208	138	132	210	143
9	238	269	254	389	1,215	281	207	139	161	210	143
10	238	269	285	371	1,117	280	206	139	147	273	157
11	238	269	335	371	879	280	221	140	147	273	157
12	238	269	301	335	703	279	220	140	147	210	157
13	238	269	301	335	703	278	203	141	147	226	157
14	238	269	301	335	780	277	187	141	147	227	158
15	238	269	301	335	740	292	187	142	148	227	216
16	238	269	335	301	717	273	200	142	148	227	216
17	238	254	335	335	651	274	200	143	148	227	216
18	238	254	335	389	608	273	199	143	148	242	216
19	238	254	335	446	525	250	197	144	148	242	216
20	238	269	335	466	460	255	107	144	148	243	216
21	238	269	353	525	416	255	160	145	149	243	187
22	238	301	335	560	400	254	165	132	149	243	187
23	238	285	335	608	446	254	161	133	163	243	187
24	238	269	335	630	427	253	163	133	163	228	217
25	238	269	335	608	427	253	162	147	163	228	217
26	238	254	408	608	416	236	103	147	163	229	218
27	254	301	408	651	335	236	144	147	164	229	218
28	269	269	408	605	518	237	158	132	164	244	218
29	238	408	740	301	237	146	173	176	214	218	—
30	285	485	651	301	238	102	173	178	214	218	—
31	209	—	630	—	245	162	—	103	—	218	—

NOTE.—Discharge February 12-16 assumed as 238 second-feet on account of ice conditions. A rating table was used to obtain daily discharge February 1 to July 4. The daily discharge July 5 to December 31 was obtained by indirect methods, as applied to shifting channels. The effect produced by the existence of moss at this station seems to be about the same as by a shifting of the bed, i. e., the moss seems to collect sediment and make a soft coating over the bed of the stream, but does not affect flow near surface.

**ESTIMATED MONTHLY DISCHARGE  
Of Provo River above Telluride Power Company's dam, near Provo,  
Utah, for 1905.  
(Drainage area, 600 square miles.)**

Month.	Discharge in Second-Feet.			Total in Acre Feet.	Run-Off.	
	Maximum.	Minimum.	Mean.		Sec.-ft. per S. 1. mile.	Depth in Inches.
Feb. -----	335	238	249	13,830	0.41	0.43
March -----	335	254	279	17,160	0.47	0.54
April -----	485	238	319	18,980	0.53	0.59
May -----	740	301	468	28,780	0.78	0.90
June -----	1,215	301	687	40,880	1.15	1.29
July -----	301	236	267	16,420	0.46	0.53
Aug. -----	245	144	190	11,680	0.32	0.37
Sept. -----	173	132	143	8,509	0.24	0.27
Oct. -----	108	132	157	9,654	0.26	0.30
Nov. -----	273	193	226	13,450	0.38	0.42
Dec. -----	245	143	200	12,300	0.33	0.38
The period	1,215	132	290	191,000	0.48	6.02

**Provo River at Mouth of Canyon, near Provo, Utah.**

This station was established July 27, 1889. It is located about 6 miles north of Provo, about 1,000 feet above Olmstead station, on the Provo Canyon branch of the Rio Grande Western Railway, and 1,200 feet above the power house of the Telluride Power Company.

The station was originally established to determine the total flow of the Provo above all diversions to Utah Lake Valley; but since that time a small canal has been taken out about 3 miles above the station and the system of the Telluride Power Company has been extended by a new flume line of sufficient capacity to divert the entire normal flow of the stream. The power plant of the Telluride Power Company has been rebuilt at a point about 1,200 feet below the station, the tailrace discharging directly into the canals at the mouth of the canyon. Practically no water now passes the station except the flood discharge and a small portion of the side drainage between the power company's dam and the gaging station, the greater part of the side drainage being diverted into the flume at various points along the line. The station is thus of little importance, but it is maintained at an extremely low cost, since the gage readings are made by the Telluride Power Company and the discharge curve is so well defined that but few more measurements are necessary.

The channel is straight for about 200 feet above and 100 feet below the station. The right bank is steep and rocky and does not overflow; the left is somewhat low and sloping and is liable to overflow at extreme flood stages. The bed of the stream is composed of boulders and soil and is very rough, but permanent. The velocity is high, ranging from 4 to 6 feet per second. Ice forms near the banks and appears also as drift or floating ice. It is, however, limited in quantity and probably never piles up or gorges. There is no anchor or needle ice at any time.

Discharge measurements are made by means of a cable and car. The cable is marked at 3-foot intervals with white paint. The initial point for soundings is the first white mark on the cable south of the vertical post that supports the cable on the right bank. A guy line is stretched across the stream about 40 feet above the station and is found useful at all stages.

The original gage was of the inclined type and consisted of a piece of Oregon fir attached to vertical posts embedded in the left bank about 2 feet below the line of the cable. The present gage, daily readings of which are made under the direction of E. A. Briscoe, an engineer at the power plant, is a vertical piece of aspen driven into the stream bed and supported at the top by a horizontal piece buried in the bank. It is located on the right bank about 30 feet above the line of the cable. Simultaneous readings on the two gages are found to be equal, but the zero of the new gage is 0.10 foot above that of the old one. The bench marks are as follows: (1) A cross chiseled in a limestone rock about 1 foot square, 100 feet S. 15 degrees E. from the old gage; elevation above old gage datum 6.98 feet. (2) A standard United States Geological metallic plug, cemented in the top of the south abutment of the highway bridge about one-eighth mile below the station; elevation above zero of gage 4.75 feet. (3) A cross chiseled on the top of a boulder projecting 1 foot above the ground, 126 feet N. 75 degrees W. from the north post supporting the cable; elevation above zero of gage, 11.21 feet.

Information in regard to this station is contained in the following publications of the United States Geological Survey (Ann—Annual Report; Bull—Bulletin; WS—Water-Supply Paper):

Description: Ann 14, ii, p 123; 18, iv, pp 325-326; Bull 131, p 59; 140, p 234; WS 16, p 162; 28, p 146; 38, pp 338-339; 51, p 416; 66, p 123; 85, p 88; 100, pp 140-141, 142-143; 133, pp 261-262.

Discharge: Ann 18, iv, p 326; Bull 131, p 92; 140, p 234; WS 16, p 162; 28, p 153; 38, p 339; 51, p 416; 100, p 141; 66, p 123; 85, p 88; 100, p 143; 133, p 262.

Discharge monthly: Ann 11, ii, p 104; 12, ii, pp 354, 361; 13, iii, p 97; 14, ii, pp 123-124; 18, iv, p 327; 19, iv, p 442; 20, iv, pp 458, 468; 21, iv, p 399; 22, iv, p 416; Bull 140, p 235; WS 75, p 195; 100, pp 142, 144; 133, p 264.

Discharge, yearly: Ann 13, iii, p 99; 20, iv, p 61.

Gage heights: Bull 131, p 60; 140, p 234; WS 11, p 79; 16, p 162; 28, p 152; 38, p 339; 51, p 417; 66, p 124; 100, p 141, 143-144; 133, p 263.

**ESTIMATED MONTHLY DISCHARGE  
Of Provo River, near Provo, Utah, for 1889.  
(Drainage area, 640 square miles.)**

Month.	Discharge in Second-Feet.			Total in Acre Feet.	Run-Off.	
	Maximum.	Minimum.	Mean.		Sec.-ft. per Sq. mile.	Depth in Inches.
July 27-31--	150	140	150	9,225	0.23	0.27
Aug. -----	149	144	145	8,917	0.23	0.26
Sept. -----	174	144	150	8,025	0.23	0.26
Oct. -----	200	174	180	11,070	0.28	0.32
Nov. -----	280	200	224	13,328	0.35	0.39
Dec. -----	630	240	381	23,616	0.60	0.69

**ESTIMATED MONTHLY DISCHARGE  
Of Provo River, near Provo, Utah, for 1890.  
(Drainage area, 640 square miles.)**

Month.	Discharge in Second-Feet.			Total in Acre Feet.	Run-Off.	
	Maximum.	Minimum.	Mean.		Sec.-ft. per Sq. mile.	Depth in Inches.
Jan. -----	700	200	305	18,571	0.48	0.55
Feb. -----	561	280	377	20,023	0.50	0.61
March -----	700	240	519	31,000	0.81	0.94
April -----	1,240	500	810	49,080	1.32	1.46
May -----	2,180	1,310	1,020	118,450	3.01	3.47
June -----	2,260	440	1,181	70,448	1.85	2.06
July -----	440	280	314	19,311	0.49	0.55
Aug. -----	280	240	252	15,408	0.30	0.45
Sept. -----	280	240	241	14,520	0.38	0.43
Oct. -----	330	280	304	18,700	0.48	0.55
Nov. -----	330	280	303	18,020	0.47	0.53
Dec. -----	330	240	293	18,020	0.40	0.53
The year-----	2,200	200	572	414,541	0.80	12.13

**ESTIMATED MONTHLY DISCHARGE  
Of Provo River, near Provo, Utah, for 1891.  
(Drainage area, 640 square miles.)**

Month.	Discharge in Second-Feet.			Total in Acre Feet.	Run-Off.	
	Maximum.	Minimum.	Mean.		Sec.-ft. per Sq. mile.	Depth in Inches.
Jan.	280	240	355	15,682	0.40	0.46
Feb.	500	280	311	17,240	0.48	0.50
March	1,316	280	492	30,258	0.77	0.89
April	930	280	478	28,430	0.75	0.83
May	1,704	551	1,226	75,399	1.92	2.21
June	1,470	551	1,190	70,805	1.86	2.07
July	1,240	200	423	26,014	0.67	0.76
Aug.	280	200	260	15,990	0.41	0.47
Sept.	440	280	314	18,683	0.49	0.55
Oct.	380	330	364	23,386	0.57	0.68
Nov.	380	380	380	22,610	0.60	0.67
Dec.	380	330	343	21,094	0.54	0.62
The year	1,704	200	503	365,501	0.70	10.71

**ESTIMATED MONTHLY DISCHARGE  
Of Provo River, near Provo, Utah, for 1892.  
(Drainage area, 640 square miles.)**

Month.	Discharge in Second-Feet.			Total in Acre Feet.	Run-Off.	
	Maximum.	Minimum.	Mean.		Sec.-ft. per Sq. mile.	Depth in Inches.
Jan.	330	330	330	20,205	0.52	0.59
Feb.	380	330	351	20,182	0.55	0.50
March	440	330	361	22,291	0.57	0.65
April	440	330	377	22,431	0.59	0.66
May	1,780	774	1,079	66,358	1.08	1.95
June	1,026	1,316	1,511	89,005	2.37	2.64
July	1,240	200	411	27,121	0.69	0.80
Aug.	280	174	209	12,361	0.31	0.36
Sept.	210	200	201	11,059	0.31	0.35
Oct.	280	200	241	14,821	0.38	0.43
Nov.	280	240	279	16,000	0.41	0.49
Dec.	330	240	257	15,805	0.40	0.45
The year	1,780	174	469	310,039	0.73	9.96

**DAILY GAGE HEIGHT  
Of Provo River, near Provo, Utah, for 1893.**

Day.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
1	4.20	4.10	4.20	5.20	4.70	5.80	5.00	4.20	4.10	4.20	4.40	4.10
2	4.20	4.10	4.20	5.00	4.70	6.10	5.30	4.20	4.10	4.20	4.40	4.10
3	4.20	4.10	4.20	5.20	4.70	6.30	5.20	4.20	4.10	4.20	4.40	4.50
4	4.20	4.10	4.20	5.20	4.70	6.30	4.90	4.20	4.10	4.20	4.40	4.50
5	4.20	4.10	4.20	5.20	4.70	6.10	4.80	4.20	4.10	4.20	4.40	4.50
6	4.20	4.10	4.20	5.10	4.80	6.60	4.70	4.20	4.10	4.20	4.40	4.60
7	4.20	4.20	4.20	5.10	5.00	6.70	4.60	4.20	4.10	4.20	4.40	4.60
8	4.20	4.20	4.20	5.00	5.10	6.80	4.40	4.10	4.10	4.20	4.40	4.60

## DAILY GAGE HEIGHT

Of Provo River, near Provo, Utah, for 1893.—Continued.

Day.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
9	4.20	4.20	4.20	4.90	5.20	6.80	4.30	4.10	4.10	4.30	4.40	4.50
10	4.10	4.20	4.20	4.80	5.30	6.90	4.30	4.10	4.10	4.30	4.40	4.50
11	4.10	4.20	4.20	4.70	5.40	6.80	4.30	4.10	4.10	4.30	4.40	4.50
12	4.10	4.20	4.20	4.70	4.50	6.60	4.30	4.10	4.10	4.30	4.40	4.50
13	4.10	4.20	4.20	4.60	5.50	6.40	4.30	4.10	4.10	4.40	4.40	4.50
14	4.10	4.20	4.20	4.50	5.80	6.40	4.30	4.10	4.40	4.40	4.40	4.50
15	4.10	4.20	4.20	4.40	6.00	6.50	4.30	4.10	4.10	4.40	4.40	4.40
16	4.10	4.20	4.20	4.50	6.40	6.40	4.30	4.10	4.10	4.40	4.40	4.40
17	4.10	4.20	4.20	4.50	6.70	6.30	4.30	4.10	4.20	4.40	4.40	4.40
18	4.10	4.20	4.20	4.50	7.00	6.10	4.20	4.10	4.20	4.40	4.40	4.40
19	4.10	4.20	4.20	4.50	6.70	5.90	4.20	4.10	4.20	4.40	4.40	4.40
20	4.10	4.20	4.20	4.50	6.60	5.70	4.20	4.10	4.20	4.40	4.40	4.40
21	4.10	4.20	4.30	4.40	6.10	5.70	4.20	4.10	4.20	4.40	4.40	4.40
22	4.10	4.20	4.30	4.40	5.90	5.50	4.20	4.10	4.20	4.40	4.40	4.40
23	4.10	4.20	4.40	4.50	5.80	5.50	4.20	4.10	4.20	4.40	4.40	4.50
24	4.10	4.20	4.40	4.80	5.70	5.40	4.20	4.10	4.20	4.40	4.40	4.50
25	4.10	4.20	4.30	4.90	5.60	5.40	4.20	4.10	4.20	4.40	4.40	4.50
26	4.10	4.20	4.40	5.20	5.50	5.40	4.20	4.10	4.20	4.40	4.40	4.50
27	4.10	4.20	4.60	5.10	5.50	5.20	4.20	4.10	4.20	4.40	4.50	4.40
28	4.10	4.20	4.60	5.00	5.60	5.20	4.20	4.10	4.20	4.40	4.50	4.40
29	4.10	—	4.60	4.70	5.70	5.00	4.20	4.10	4.20	4.40	4.50	4.40
30	4.10	—	4.90	4.70	5.70	5.00	4.20	4.10	4.20	4.40	4.50	4.40
31	4.10	—	5.00	—	5.80	—	4.20	4.10	—	4.40	—	4.40

## ESTIMATED MONTHLY DISCHARGE

Of Provo River, near Provo, Utah, for 1893.

(Drainage area, 640 square miles.)

Month.	Discharge in Second-Feet.			Total In Aero Feet.	Run-Off.	
	Maximum.	Minimum.	Mean.		Sec.-ft. per Sq. mile.	Depth in Inches.
Jan.	280	240	251	15,433	0.39	0.45
Feb.	280	240	275	15,273	0.43	0.45
March	775	280	351	21,582	0.55	0.03
April	928	380	638	30,238	1.00	1.12
May	2,310	561	1,237	70,000	1.03	2.34
June	2,200	774	1,580	94,016	2.47	2.87
July	1,000	280	431	26,501	0.07	0.77
Aug.	280	240	249	15,310	0.39	0.45
Sept.	280	240	258	15,352	0.40	0.45
Oct.	380	280	348	21,300	0.54	0.02
Nov.	440	380	388	23,088	0.60	0.67
Dec.	440	380	413	25,395	0.64	0.74
The year	2,310	240	635	388,038	0.83	11.56

## DISCHARGE MEASUREMENTS

Of Provo River, near Provo, Utah, for 1894.

Date.	Hydrographer.	Gage height.	Discharge
		Feet.	Second-ft.
December 24.	S. Fortier	4.40	390

**DAILY GAGE HEIGHT**  
Of Provo River, at mouth of Canyon, for 1894.

Day.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
1	4.40	4.40	4.50	4.70	5.30	6.50	4.50	4.10	4.10	4.40	4.50	4.30
2	4.40	4.40	4.50	4.70	5.20	6.50	4.50	4.10	4.40	4.40	4.40	4.30
3	4.40	4.40	4.50	4.70	5.10	—	4.30	4.10	4.40	4.40	4.40	4.30
4	4.40	4.40	4.50	4.70	5.10	—	4.30	4.10	4.40	4.40	4.40	4.30
5	4.40	4.40	4.50	4.70	5.10	—	4.50	4.10	4.40	4.40	4.40	4.30
6	4.40	4.40	4.50	4.70	5.10	—	4.40	4.10	4.50	4.40	4.40	4.30
7	4.40	4.40	4.50	4.70	5.20	—	4.50	4.10	4.50	4.40	4.40	4.30
8	4.40	4.40	4.50	4.60	5.40	—	4.30	4.10	4.50	4.40	4.40	4.30
9	4.40	4.40	4.50	4.60	5.50	—	4.30	4.10	4.50	4.40	4.40	4.30
10	4.40	4.40	4.50	4.70	5.60	4.90	4.30	4.10	4.50	4.40	4.40	4.30
11	4.40	4.40	4.50	4.70	5.60	5.90	4.30	4.10	4.60	4.40	4.40	4.30
12	4.40	4.40	4.50	4.80	5.80	5.80	4.30	4.10	4.60	4.40	4.40	4.30
13	4.40	4.40	4.50	4.90	5.90	5.60	4.30	4.10	4.50	4.40	4.40	4.40
14	4.40	4.40	4.50	4.90	6.20	5.60	4.20	4.10	4.50	4.40	4.40	4.40
15	4.40	4.40	4.60	4.80	6.40	5.30	4.30	4.10	4.50	4.40	4.40	4.40
16	4.40	4.40	4.60	4.80	6.40	5.30	4.20	4.10	—	4.40	4.40	4.40
17	4.40	4.40	4.60	4.70	6.40	5.30	4.20	4.10	—	4.40	4.40	4.40
18	4.40	4.40	4.60	4.70	6.20	4.90	4.20	—	—	4.40	4.40	4.40
19	4.40	4.40	4.60	4.70	6.10	4.90	4.20	—	—	4.40	4.40	4.40
20	4.40	4.40	4.60	4.70	6.20	4.80	4.20	—	—	4.40	4.40	4.40
21	4.40	4.40	4.60	4.80	6.10	4.80	4.20	—	—	4.40	4.50	4.50
22	4.40	4.40	4.60	4.90	6.10	4.60	4.10	4.10	—	4.40	4.50	4.50
23	4.40	4.40	4.60	5.00	6.00	4.50	4.10	—	—	4.30	4.50	4.50
24	4.40	4.50	4.60	5.00	6.00	4.60	4.10	—	—	4.30	4.40	4.40
25	4.40	4.50	4.70	5.10	6.10	4.60	4.10	—	—	4.30	4.20	4.20
26	4.40	4.50	4.60	5.30	6.20	4.50	4.10	4.10	—	4.40	4.30	4.20
27	4.40	4.50	4.60	5.40	6.20	4.50	4.10	4.20	—	4.40	4.30	4.10
28	4.40	4.50	4.70	5.40	6.30	4.50	4.10	4.30	—	4.40	4.30	4.10
29	4.40	—	4.80	5.40	6.40	4.50	4.10	4.20	—	4.40	4.30	4.20
30	4.40	—	4.80	5.30	6.40	4.40	4.10	4.20	—	4.40	4.30	4.20
31	4.40	—	4.70	—	6.40	—	4.10	4.10	—	4.40	—	4.20

ESTIMATED MONTHLY DISCHARGE  
OF Provo River, near Provo, Utah, for 1894.  
(Drainage area, 640 square miles.)

Month.	Discharge in Second-Feet.			Total In Acre Feet	Run-Off.	
	Maximum.	Minimum.	Mean.		Sec.-ft. per Sq. mile.	Depth in Inches.
Jan.	380	380	380	23,305	0.59	0.68
Feb.	440	380	391	21,715	0.61	0.63
March	630	440	485	20,575	0.75	0.87
April	1,081	604	687	40,880	1.07	1.10
May	1,869	851	1,449	80,005	2.26	2.01
June	1,910	380	1,110	60,050	1.73	1.03
July	440	240	312	19,181	0.48	0.55
*Aug.	330	240	247	15,187	0.38	0.44
*Sept.	600	240	430	26,587	0.07	0.75
*Oct	440	380	380	23,305	0.59	0.68
Nov.	440	380	376	22,315	0.60	0.60
Dec.	440	240	311	20,067	0.53	0.01
The year	1,910	240	549	307,285	0.85	11.09

\*Estimated.

**DISCHARGE MEASUREMENTS**  
**Of Provo River, near Provo, Utah, for 1895.**

Date.	Hydrographer.	Gage	height.	Discharge
		Feet.	Second-ft.	
June 15	J. L. Rhead	4.80	680	
July 20	A. P. Davis	4.10	270	

**DAILY GAGE HEIGHT**  
**Of Provo River, near Provo, Utah, for 1895.**

Day.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
1	4.30	4.30	4.40	4.60	5.30	5.20	4.20	4.00	3.90	4.10	4.10	4.30
2	4.30	4.30	4.40	4.60	5.30	5.10	4.20	4.00	3.90	4.10	4.10	4.30
3	4.30	4.30	4.40	4.60	5.20	4.90	4.20	4.00	3.90	4.10	4.20	4.30
4	4.30	4.30	4.40	4.50	5.20	4.80	4.20	4.00	3.90	4.10	4.20	4.30
5	4.40	4.20	4.30	4.50	5.20	4.80	4.10	4.00	3.90	4.10	4.20	4.30
6	4.40	4.20	4.30	4.50	5.20	4.80	4.10	4.00	3.90	4.10	4.20	4.30
7	4.60	4.20	4.30	4.50	5.30	5.00	4.00	4.00	4.00	4.10	4.20	4.30
8	4.30	4.30	4.30	4.50	5.30	4.90	4.00	4.00	3.90	4.10	4.20	4.20
9	4.30	4.30	4.30	4.60	5.40	4.80	4.10	4.00	3.90	4.10	4.20	4.20
10	4.30	4.20	4.30	4.60	5.40	4.80	4.10	4.00	3.90	4.10	4.20	4.20
11	4.30	4.20	4.30	4.70	5.50	4.70	4.10	4.00	3.90	4.10	4.20	4.20
12	4.30	4.20	4.30	4.70	5.50	4.70	4.20	4.00	3.90	4.10	4.20	4.20
13	4.30	4.20	4.30	4.70	5.60	4.80	4.20	4.00	3.90	4.10	4.20	4.20
14	4.30	4.20	4.30	4.80	5.60	4.80	4.10	4.00	3.90	4.10	4.20	4.20
15	4.30	4.20	4.20	4.90	6.00	4.80	4.10	4.00	4.00	4.10	4.20	4.20
16	4.30	4.20	4.20	4.90	6.20	4.70	4.10	4.00	4.00	4.10	4.20	4.20
17	4.30	4.20	4.20	4.90	5.90	4.60	4.10	4.00	4.00	4.10	4.20	4.20
18	4.30	4.20	4.30	4.90	5.90	4.60	4.10	4.00	4.00	4.10	4.20	4.20
19	4.30	4.20	4.30	4.90	5.90	4.50	4.10	4.00	4.00	4.10	4.20	4.20
20	4.30	4.30	4.30	4.90	5.90	4.50	4.10	4.00	4.00	4.10	4.20	4.20
21	4.30	4.30	4.40	4.90	5.80	4.40	4.10	4.00	4.00	4.10	4.20	4.20
22	4.30	4.30	4.40	5.10	5.70	4.40	4.10	4.00	4.00	4.10	4.20	4.20
23	4.30	4.30	4.40	5.10	5.60	4.30	4.10	4.00	4.00	4.10	4.20	4.20
24	4.20	4.40	4.50	5.10	5.60	4.30	4.10	4.00	4.00	4.10	4.30	4.20
25	4.20	4.40	4.50	5.10	5.50	4.30	4.10	4.00	4.00	4.10	4.30	4.20
26	4.20	4.40	4.60	5.10	5.40	4.30	4.10	3.90	4.00	4.10	4.30	4.20
27	4.20	4.40	4.60	5.10	5.30	4.20	4.10	3.90	4.00	4.10	4.30	4.20
28	4.20	4.40	4.60	5.20	5.30	4.20	4.10	3.90	4.00	4.10	4.30	4.20
29	4.30	—	5.20	5.20	5.20	4.20	4.10	3.90	4.10	4.10	4.30	4.20
30	4.30	—	5.20	5.30	5.20	4.20	4.10	3.90	4.10	4.10	4.30	4.20
31	4.30	—	4.60	—	5.20	—	4.00	3.90	—	4.10	—	4.20

**ESTIMATED MONTHLY DISCHARGE**  
**Of Provo River, near Provo, Utah, for 1895.**  
 (Drainage area, 640 square miles.)

Month.	Discharge in Second-Feet.			Total in Acre Feet.	Run-Off.	
	Maximum.	Minimum.	Mean.		Sec.-ft. per Sq. mile.	Depth in Inches.
Jan.	508	292	341	20,967	0.53	0.61
Feb.	389	292	326	18,105	0.51	0.62
March	968	292	421	25,886	0.66	0.76
April	1,050	444	683	40,641	1.07	1.19
May	1,760	968	1,216	74,769	1.90	2.19
June	968	292	542	33,251	0.85	0.94
July	292	220	261	16,048	0.41	0.47
Aug.	220	192	215	13,220	0.34	0.39
Sept.	254	192	209	12,436	0.33	0.37
Oct.	254	254	254	15,018	0.40	0.46
Nov.	338	292	300	17,851	0.47	0.53
Dec.	338	292	303	18,031	0.47	0.54
The year	1,760	192	423	306,423	0.65	0.07

**DISCHARGE MEASUREMENTS**  
**Of Provo River, near Provo, Utah, for 1896.**

Date.	Hydrographer.	Gage height. Feet.	Discharge	
			Second-ft.	Second-ft.
September 7	S. Fortier	4.21	275	
November 7	C. C. Bobb	4.25	269	

**DAILY GAGE HEIGHT**  
**Of Provo River, near Provo, Utah, for 1896.**

Day.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
1	4.20	4.30	4.20	4.50	4.80	7.30	4.50	4.40	4.20	4.30	4.30	-----
2	4.10	4.20	4.20	4.50	4.80	7.30	4.40	4.40	4.20	4.30	4.30	-----
3	4.10	4.20	4.20	4.50	4.80	7.80	4.30	4.40	4.20	4.30	4.30	-----
4	4.10	4.20	4.20	4.50	4.00	7.00	4.30	4.30	4.20	4.30	4.30	-----
5	4.20	4.20	4.20	4.50	5.00	7.30	4.30	4.30	4.20	4.30	4.30	4.40
6	4.20	4.20	4.20	4.50	5.20	6.00	4.30	4.30	4.20	4.30	4.30	-----
7	4.20	4.20	4.20	4.50	5.40	6.00	4.30	4.20	4.20	4.30	4.30	-----
8	4.20	4.20	4.20	4.50	5.40	6.00	4.20	4.20	4.20	4.30	4.60	-----
9	4.20	4.20	4.20	4.40	5.50	6.80	4.20	4.20	4.20	4.30	4.60	-----
10	4.20	4.20	4.20	4.40	5.30	6.80	4.20	4.20	4.20	4.30	4.60	-----
11	4.20	4.20	4.20	4.30	5.30	6.50	4.20	4.20	4.20	4.30	4.60	-----
12	4.20	4.20	4.20	6.30	5.20	6.50	4.20	4.20	4.20	4.30	4.50	4.40
13	4.20	4.30	4.20	6.80	5.20	6.20	4.20	4.20	4.20	4.30	4.50	-----

DAILY GAGE HEIGHT  
Of Provo River, near Provo, Utah, for 1896.—Continued.

Day.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
14	4.20	4.30	4.20	5.90	4.90	6.00	4.20	4.20	4.20	4.30	4.50	—
15	4.20	4.30	4.30	5.80	4.70	5.80	4.30	4.20	4.20	4.30	4.40	—
16	4.20	4.20	4.30	5.30	4.70	5.60	4.30	4.20	4.20	4.30	4.40	—
17	4.30	4.20	4.30	4.70	4.70	5.00	4.30	4.20	4.20	4.30	4.40	—
18	4.30	4.20	4.40	4.70	4.70	4.80	4.30	4.20	4.20	4.30	4.40	—
19	4.40	4.20	4.40	4.60	4.70	4.60	4.20	4.20	4.20	4.30	4.40	4.40
20	4.40	4.20	4.40	4.60	4.70	4.60	4.20	4.20	4.30	4.30	4.40	—
21	4.50	4.20	4.50	4.60	4.70	4.90	4.30	4.20	4.30	4.30	4.40	—
22	4.50	4.20	4.60	4.60	4.70	4.80	4.90	4.20	4.30	4.30	4.50	—
23	4.40	4.20	4.60	4.60	4.70	4.80	4.80	4.20	4.30	4.30	4.50	—
24	4.30	4.20	4.60	4.60	5.90	4.70	4.70	4.20	4.30	4.30	4.50	—
25	4.30	4.20	4.70	4.60	5.60	4.60	4.50	4.20	4.30	4.30	4.50	—
26	4.30	4.20	4.70	4.70	6.00	4.60	4.50	4.20	4.30	4.30	4.50	4.40
27	4.30	4.20	4.80	4.70	4.50	4.50	6.20	4.20	4.30	4.30	4.40	—
28	4.30	4.20	4.90	4.70	6.50	4.60	4.50	4.20	4.30	4.30	4.40	—
29	4.30	4.20	4.60	4.70	7.00	4.60	4.50	4.20	4.30	4.30	—	—
30	4.30	—	4.60	4.80	7.80	3.50	4.50	4.20	4.30	4.30	—	—
31	4.30	—	4.60	—	8.50	—	4.50	4.20	—	4.30	—	—

ESTIMATED MONTHLY DISCHARGE  
Of Provo River, at mouth of Canyon, for 1896.  
(Drainage area, 640 square miles.)

Month.	Discharge in Second-Feet.			Total in Acre Feet.	Run-Off.	
	Maximum.	Minimum.	Mean.		Sec. ft. per Sp. mile.	Depth in Inches.
Jan.	444	256	322	19,708	0.50	0.58
Feb.	339	202	208	17,141	0.46	0.50
March	728	202	398	24,471	0.02	0.71
April	1,618	300	620	37,428	0.08	1.09
May	4,150	581	1,106	71,894	1.82	2.10
June	3,345	444	1,658	92,707	2.44	2.72
July	728	202	384	23,011	0.60	0.69
Aug.	444	202	311	10,122	0.40	0.56
Sept.	339	202	300	18,387	0.48	0.54
Oct.	339	339	339	20,844	0.53	0.61
Nov.	511	339	421	25,041	0.06	0.73
Dec.	390	390	390	29,080	0.01	0.70
The year	4,160	202	544	304,224	0.85	11.53

DISCHARGE MEASUREMENTS  
Of Provo River, near Provo, Utah, for 1807.

Date.	Hydrographer	Gage height.	Discharge
		Feet.	Second-ft.
May 27	W. B. Dougall	0.25	1,818
May 14	do.	0.05	1,081
May 24	do.	0.63	2,451
June 4	do.	5.35	1,107
June 21	do.	1.00	504
August 27	do.	4.10	300
November 26	do.	4.40	436

**DAILY GAGE HEIGHT  
Of Provo River, near Provo, Utah, for 1897.**

Day.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	
1					5.60	5.80	4.30	4.00	4.00	4.40	4.50	4.40	
2	4.40				5.70	5.80	4.30	4.00	4.00	4.40	4.50	4.40	
3					5.80	5.60	4.30	4.00	4.00	4.40	4.50	4.40	
4				4.80	5.90	5.50	4.20	4.00	4.00	4.40	4.50	4.40	
5				4.80	5.90	5.40	4.20	4.00	4.00	4.40	4.50	4.40	
6			4.60	4.40	4.80	6.00	5.20	4.20	4.00	4.00	4.50	4.40	
7					4.80	6.10	5.10	4.20	4.00	4.00	4.40	4.50	4.40
8					4.80	6.10	5.10	4.20	4.00	4.00	4.40	4.50	4.30
9	4.40				4.80	6.20	5.10	4.20	4.00	4.00	4.40	4.50	4.30
10					4.80	6.20	5.10	4.20	4.00	4.00	4.40	4.50	4.30
11					5.00	5.90	5.00	4.20	4.00	4.10	4.40	4.50	4.30
12					5.00	5.80	5.00	4.20	4.00	4.10	4.40	4.50	4.30
13			4.60	4.40	5.00	6.80	5.00	4.20	4.00	4.10	4.40	4.30	4.30
14					5.00	6.00	5.00	4.20	4.00	4.10	4.40	4.30	4.30
15					5.00	6.20	4.90	4.20	4.00	4.10	4.40	4.30	4.30
16					5.00	6.10	4.90	4.20	4.00	4.10	4.40	4.30	4.30
17					5.00	6.10	4.90	4.20	4.00	4.10	4.50	4.30	4.30
18					5.40	6.20	4.90	4.10	4.00	4.10	4.50	4.30	4.30
19			4.80		5.40	6.30	4.90	4.10	4.00	4.10	4.50	4.30	4.30
20			4.60	4.40	5.60	6.30	4.80	4.10	4.00	4.10	4.50	4.30	4.30
21					5.60	6.40	4.80	4.10	4.00	4.10	4.50	4.40	4.30
22					5.40	6.50	4.60	4.10	4.00	4.10	4.50	4.40	4.30
23	4.30				5.00	6.50	4.50	4.10	4.00	4.10	4.50	4.40	4.30
24					5.00	6.60	4.40	4.10	4.00	4.10	4.50	4.40	4.30
25					5.10	6.60	4.30	4.10	4.00	4.10	4.50	4.40	4.30
26					5.20	6.50	4.30	4.10	4.00	4.10	4.60	4.40	4.30
27			4.40		5.30	6.50	4.30	4.10	4.00	4.10	4.50	4.40	4.30
28					5.40	6.40	4.30	4.10	4.00	4.20	4.50	4.40	4.30
29					5.50	6.40	4.30	4.10	4.00	4.20	4.50	4.40	4.30
30	4.30				5.60	6.10	4.30	4.10	4.00	4.40	4.50	4.40	4.30
31					6.00	-----	4.10	4.00	-----	4.60	-----	4.30	

**ESTIMATED MONTHLY DISCHARGE  
Of Provo River, near Provo, Utah, for 1897.  
(Drainage area, 640 square miles.)**

Month.	Discharge in Second-Foot.			Aero. Feet.	Sec.-ft. per Sq. mile.	Run-Off.
	Maximum.	Minimum.	Mean.			
Jan.				400	24,505	0.62
Feb.				*500	27,769	0.78
March				*415	25,518	0.65
April	1,320	712	850	50,035	1.31	1.50
May	2,600	1,320	1,850	114,122	2.00	3.35
June	1,472	360	700	47,865	1.24	1.38
July	360	265	295	18,130	0.40	0.53
Aug.	225	225	225	13,835	0.35	0.40
Sept.	415	225	260	16,471	0.41	0.46
Oct.	485	415	440	27,608	0.70	0.81
Nov.	485	360	433	25,765	0.68	0.75
Dec.	415	360	372	22,874	0.58	0.67
The year				*571	413,000	0.60

\*Estimated.

**DAILY GAGE HEIGHT**  
Of Provo River, near Provo, Utah, for 1898.

Day.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
1	4.30	4.20	4.40	4.40	5.20	5.40	4.20	3.80	3.80	3.80	4.10	4.20
2	4.30	4.20	4.40	4.40	5.20	5.50	4.20	3.80	3.80	3.80	4.10	4.20
3	4.30	4.20	4.40	4.40	5.10	5.50	4.00	3.80	3.80	3.80	4.10	4.20
4	4.30	4.20	4.40	4.40	5.10	5.50	4.00	3.80	3.80	3.80	4.10	4.20
5	4.30	4.20	4.40	4.40	5.00	5.30	4.00	3.80	3.80	3.80	4.10	4.20
6	4.30	4.20	4.40	4.40	5.00	5.20	4.00	3.80	3.80	3.80	4.20	4.20
7	4.30	4.20	4.40	4.40	5.00	5.20	4.00	3.80	3.80	3.80	4.20	4.20
8	4.10	4.20	4.40	4.40	5.10	5.20	4.00	3.80	3.80	3.80	4.20	4.20
9	4.10	4.20	4.40	4.40	5.10	5.20	4.00	3.80	3.80	3.80	4.20	4.20
10	4.10	4.20	4.40	4.40	5.10	5.00	4.00	3.80	3.80	3.80	4.20	4.20
11	4.10	4.20	4.40	4.50	5.10	5.00	4.00	3.80	3.80	3.80	4.20	4.20
12	4.10	4.20	4.40	4.50	5.20	5.10	4.00	3.80	3.80	3.80	4.20	4.20
13	4.10	4.20	4.40	4.60	5.20	5.20	4.00	3.80	3.80	3.80	4.20	4.20
14	4.10	4.20	4.40	4.60	5.20	5.40	4.00	3.80	3.80	3.80	4.20	4.20
15	4.20	4.20	4.20	4.20	5.20	5.20	4.20	3.80	3.80	3.80	4.20	4.20
16	4.10	4.20	4.40	4.70	5.20	5.40	4.00	3.80	3.80	4.10	4.20	4.20
17	4.10	4.20	4.40	4.60	5.20	5.10	3.90	3.80	3.80	4.10	4.20	4.20
18	4.10	4.20	4.40	4.70	5.20	5.00	3.90	3.80	3.80	4.10	4.20	4.10
19	4.10	4.20	4.40	4.80	5.20	4.70	3.90	3.80	3.80	4.10	4.20	4.10
20	4.10	4.20	4.40	4.90	5.20	4.70	3.90	3.80	3.80	4.10	4.20	4.10
21	4.10	4.20	4.40	4.60	5.20	4.70	3.90	3.80	3.80	4.10	4.20	4.10
22	4.10	4.20	4.40	4.60	5.10	4.90	3.90	3.70	3.80	4.10	4.20	4.10
23	4.20	4.30	4.40	4.70	5.00	4.80	3.90	3.70	3.80	4.10	4.20	4.10
24	4.20	4.40	4.40	4.80	5.40	4.70	3.80	3.70	3.80	4.10	4.20	4.10
25	4.20	4.40	4.40	4.90	5.40	4.70	3.80	3.70	3.80	4.10	4.20	4.20
26	4.20	4.40	4.40	5.10	5.30	4.60	3.80	3.70	3.80	4.10	4.20	4.20
27	4.20	4.40	4.40	5.10	5.30	4.60	3.80	3.70	3.80	4.10	4.20	4.20
28	4.20	4.40	4.40	5.10	5.20	4.40	3.80	3.70	3.80	4.10	4.20	4.20
29	4.20	-----	4.40	5.20	5.30	4.40	3.80	3.80	3.80	4.10	4.20	4.20
30	4.20	-----	4.40	5.20	5.30	4.20	3.80	3.80	3.80	4.10	4.20	4.20
31	4.20	-----	4.40	-----	5.40	-----	3.80	3.80	3.80	4.10	-----	4.20

**ESTIMATED MONTHLY DISCHARGE**  
Of Provo River, near Provo, Utah, for 1898.  
(Drainage area, 640 square miles.)

Month.	Discharge in Second-Feet.			Total in Acre Feet.	Run-Off.	
	Maximum.	Minimum.	Mean.		Sec.-ft. per Sq. mile.	Depth in Inches.
Jan.	336	250	283	17,401	0.41	0.51
Feb.	300	287	307	17,050	0.48	0.50
March	300	300	300	23,980	0.61	0.70
April	972	300	500	33,070	0.88	0.98
May	1,132	812	957	58,814	1.50	1.73
June	1,212	287	823	48,972	1.29	1.41
July	387	107	202	12,421	0.32	0.37
Aug.	107	110	102	9,061	0.25	0.20
Sept.	107	107	107	9,037	0.26	0.20
Oct.	250	107	210	12,012	0.33	0.38
Nov.	287	250	281	10,721	0.41	0.40
Dec.	287	250	270	17,165	0.41	0.51
The year.	1,212	146	386	270,033	0.60	0.70

**DISCHARGE MEASUREMENTS**  
**Of Provo River, near Provo, Utah, for 1899.**

Date.	Hydrographer.	Gage height.	Discharge
		Feet.	Second-ft.
May 8-----	W. B. Dougall	4.70	496
June 29-----	J. S. Balka-----	6.70	1,745
July 13-----	do. -----	5.22	535
August 16-----	do. -----	4.60	340
September 14-----	do. -----	4.60	352

**DAILY GAGE HEIGHT**  
**Of Provo River, near Provo, Utah, for 1899.**

Day.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
1 -----	4.20	4.20	4.30	4.90	5.20	5.80	6.50	4.60	4.60	4.80	-----	-----
2 -----	4.20	4.20	4.30	4.80	5.20	5.80	6.90	4.60	4.60	4.80	-----	-----
3 -----	4.20	4.20	4.30	4.80	5.20	5.80	6.30	4.60	4.60	4.80	-----	-----
4 -----	4.20	4.20	4.30	4.80	5.20	6.20	6.20	4.60	4.60	4.80	-----	-----
5 -----	4.20	4.00	4.30	4.80	5.20	6.40	6.10	4.60	4.60	4.80	-----	-----
6 -----	4.20	4.00	4.30	4.80	5.20	6.70	5.90	4.60	4.60	4.80	-----	-----
7 -----	4.20	4.00	4.30	4.70	4.80	6.70	5.70	4.60	4.60	4.80	-----	-----
8 -----	4.20	4.00	4.30	4.70	4.90	6.80	5.00	4.60	4.60	4.80	-----	-----
9 -----	4.20	4.00	4.30	4.90	5.00	6.80	5.50	4.70	4.60	4.80	-----	-----
10 -----	4.20	3.90	4.40	4.90	5.30	6.90	5.40	4.70	4.60	4.80	-----	-----
11 -----	4.20	3.90	4.40	5.00	5.40	7.10	5.30	4.70	4.60	4.80	-----	-----
12 -----	4.20	4.20	4.40	5.00	5.70	7.10	5.20	4.70	4.60	4.80	-----	-----
13 -----	4.20	4.20	4.40	5.00	5.70	7.10	5.20	4.70	4.60	4.80	-----	-----
14 -----	4.20	4.20	4.40	5.10	5.70	7.20	5.20	4.70	4.60	4.80	-----	-----
15 -----	4.20	4.20	4.40	5.10	5.70	7.20	5.20	4.70	4.60	4.80	-----	-----
16 -----	4.20	4.20	4.40	5.10	5.60	7.20	5.10	4.70	4.60	4.80	-----	-----
17 -----	4.20	4.20	4.50	5.10	5.60	7.20	5.10	4.70	4.60	4.80	-----	-----
18 -----	4.20	4.20	4.50	5.10	5.50	7.60	5.10	4.70	4.60	4.80	-----	-----
19 -----	4.20	4.20	4.80	5.20	5.50	7.70	5.00	4.70	4.60	4.80	-----	-----
20 -----	4.20	4.20	5.00	5.20	5.50	7.80	5.00	4.60	4.60	4.80	-----	-----
21 -----	4.20	4.20	5.00	5.30	5.50	7.90	5.00	4.60	4.60	4.80	-----	-----
22 -----	4.20	4.20	5.00	5.30	5.30	8.00	5.00	4.60	4.60	4.60	-----	-----
23 -----	4.20	4.20	5.00	5.30	5.30	7.60	4.90	4.60	4.60	4.60	-----	-----
24 -----	4.20	4.20	5.30	5.30	5.30	7.60	4.90	4.60	4.60	4.60	-----	-----
25 -----	4.20	4.20	5.30	5.30	5.60	7.40	4.90	4.60	4.60	4.60	-----	-----
26 -----	4.20	4.20	5.00	5.30	5.80	7.40	4.80	4.60	4.60	4.60	-----	-----
27 -----	4.20	4.20	5.00	5.20	5.80	7.20	4.80	4.60	4.60	4.60	-----	-----
28 -----	4.20	4.20	5.00	5.20	5.80	7.10	4.80	4.60	4.60	4.60	-----	-----
29 -----	4.20	-----	5.00	5.20	5.80	6.70	4.80	4.60	4.60	4.60	-----	-----
30 -----	4.20	-----	5.00	5.20	5.80	6.60	4.60	4.60	4.60	4.60	-----	-----
31 -----	4.20	-----	5.00	-----	5.80	4.60	4.60	4.60	4.60	4.60	-----	-----

\*Discontinued.

**ESTIMATED MONTHLY DISCHARGE  
Of Provo River, near Provo Utah, for 1899.  
(Drainage area, 640 square miles.)**

Month.	Discharge in Second-Feet.			Total in Acre Feet.	Run-Off.	
	Maximum.	Minimum.	Mean.		Sec. ft. per Sq. mile.	Depth in Inches.
Jan. -----	287	287	287	17,647	0.45	0.52
Feb. -----	287	190	267	14,828	0.42	0.43
March -----	1,052	336	564	34,679	0.88	1.01
April -----	1,052	582	855	50,876	1.34	1.50
May -----	1,454	652	1,169	71,879	1.83	2.11
June -----	3,310	1,454	2,345	139,537	3.66	4.07
July -----	1,890	330	679	41,750	1.06	1.22
Aug. -----	350	330	337	20,721	0.53	0.61
Sept. 1-23--	330	330	330	19,636	0.52	0.58
Oct. 1-21--	370	370	370	22,750	0.58	0.67
The period--	3,310	190	720	434,303	1.13	12.72

**DISCHARGE MEASUREMENTS  
Of Provo River, near Provo, Utah, for 1900.**

Date.	Hydrographer.	Gage height.	Discharge	
			Feet.	Second-ft.
May 22-----	C. C. Babb-----	5.05		834
July 13-----	W. P. Hardesty-----	4.23		174
September 15-----	-do-	4.10		102
November 14-----	-do-	4.50		267

DAILY GAGE HEIGHT  
Of Provo River, at Mouth of Canyon, for 1900.

Day.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
1						6.2	4.3	4.2	4.2	4.3	4.5	4.8
2						5.9	4.3	4.2	4.1	4.3	4.5	4.8
3						5.7	4.3	4.2	4.1	4.3	4.5	4.8
4						5.5	4.3	4.2	4.1	4.3	4.5	4.7
5						5.4	4.3	4.2	4.1	4.3	4.5	4.6
6						5.3	4.3	4.2	4.1	4.3	4.5	4.6
7						5.2	4.3	4.2	4.1	4.3	4.5	4.6
8						5.2	4.2	4.2	4.1	4.3	4.5	4.6
9						5.1	4.2	4.2	4.1	4.3	4.5	
10						5.1	4.2	4.2	4.2	4.3	4.5	
11						4.1	4.2	4.2	4.2	4.3	4.5	
12						4.9	4.2	4.1	4.2	4.3	4.5	
13						4.9	4.2	4.1	4.2	4.3	4.5	
14						4.8	4.2	4.1	4.2	4.3	4.5	
15						4.7	4.2	4.1	4.2	4.3	4.5	
16						4.6	4.2	4.1	4.2	4.3	4.8	
17						4.5	4.2	4.1	4.2	4.3	4.8	
18						4.5	4.2	4.2	4.2	4.4	4.8	
19						4.4	4.2	4.2	4.2	4.4	5.0	
20						4.4	4.2	4.2	4.2	4.4	5.6	
21						5.5	4.4	4.2	4.2	4.2	4.4	5.6
22						5.7	4.4	4.2	4.2	4.2	4.4	5.6
23						5.7	4.4	4.2	4.2	4.5	5.2	
24						0.0	4.3	4.2	4.2	4.3	4.5	5.0
25						6.0	4.3	4.2	4.2	4.3	4.5	4.8
26						6.1	4.3	4.2	4.2	4.3	4.5	4.8
27						6.0	4.3	4.2	4.2	4.3	4.5	4.8
28						6.5	4.3	4.2	4.2	4.3	4.5	4.8
29						6.5	4.3	4.2	4.2	4.3	4.5	4.8
30						6.4	4.3	4.2	4.2	4.3	4.5	4.8
31						6.8	4.2	4.2	4.2	4.5		

ESTIMATED MONTHLY DISCHARGE  
Of Provo River, near Provo, Utah, for 1900.  
(Drainage area, 640 square miles.)

Month.	Discharge in Second-Feet.		Mean.	Acre Feet.	Sec. ft. per Sq. mile.	Run-Off.
	Maximum.	Minimum.				
May 21-31			1,240	27,055	1.05	0.70
June	1,310	155	404	24,010	0.03	0.70
July	200	176	181	11,120	0.28	0.32
Aug.	175	155	170	10,453	.27	.31
Sept.	200	155	170	10,473	.28	.31
Oct.	255	200	218	13,404	.34	.30
Nov.	788	255	360	21,302	.50	.02
Dec. 1-8			316	6,014	.40	.14

DISCHARGE MEASUREMENTS  
Of Provo River, near Provo, Utah, for 1901.

Date.	Hydrographer.	Gage	height.	Discharge
		Feet.	Second-ft.	
April 6	G. L. Swendsen	4.70	353	
June 29	do.	4.10	285	
July 22	do.	4.20	223	
August 13	do.	4.10	211	
November 11	do.	4.10	224	

DAILY GAGE HEIGHT  
Of Provo River, near Provo, Utah, for 1901.

Day.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
1	4.50	4.50	4.90	4.50	5.40	5.70	4.20	4.10	4.20	4.20	4.40	-----
2	4.50	4.50	4.90	4.50	5.30	5.50	4.20	4.10	4.20	4.20	4.40	-----
3	4.50	4.50	4.80	4.50	5.30	5.40	4.20	4.10	4.20	4.20	4.40	-----
4	4.50	4.50	4.80	4.50	5.30	5.30	4.20	4.20	4.20	4.20	4.40	-----
5	4.50	4.50	4.80	4.50	5.30	5.20	4.20	4.20	4.20	4.20	4.40	-----
6	4.50	4.50	4.80	4.50	5.40	5.10	4.20	4.20	4.20	4.20	4.40	-----
7	4.50	4.50	4.70	4.50	5.40	5.10	4.20	4.20	4.20	4.20	4.40	-----
8	4.50	4.50	4.70	4.50	5.30	5.10	4.20	4.20	4.20	4.20	4.40	-----
9	4.50	4.50	4.60	4.50	5.30	5.10	4.20	4.20	4.20	4.20	4.40	-----
10	4.50	4.50	4.60	4.50	5.30	5.10	4.20	4.20	4.20	4.20	4.40	-----
11	4.60	4.40	4.60	4.50	5.60	5.00	4.20	4.20	4.20	4.20	4.40	-----
12	4.60	4.30	4.50	4.50	5.90	4.90	4.20	4.20	4.20	4.20	4.40	-----
13	4.60	4.30	4.50	4.50	6.20	4.80	4.20	4.20	4.20	4.30	4.40	-----
14	4.60	4.30	4.60	4.60	6.40	4.70	4.20	4.20	4.20	4.30	4.40	-----
15	4.50	4.60	4.60	4.70	0.40	4.70	4.20	4.20	4.20	4.30	4.40	-----
16	4.50	4.80	4.60	4.70	0.50	4.60	4.20	4.20	4.20	4.30	4.40	-----
17	4.40	5.00	4.60	4.60	0.60	4.60	4.20	4.20	4.20	4.30	-----	-----
18	4.40	0.00	4.60	4.60	0.60	4.50	4.20	4.20	4.20	4.30	-----	-----
19	4.40	0.00	4.60	4.70	7.10	4.50	4.20	4.20	4.20	4.30	-----	-----
20	4.50	0.00	4.60	4.70	7.00	4.50	4.20	4.20	4.20	4.30	-----	-----
21	4.50	5.50	4.60	4.90	0.80	4.50	4.20	4.20	4.20	4.30	-----	-----
23	4.60	4.00	4.60	5.00	0.00	4.50	4.20	4.20	4.20	4.30	-----	-----
24	4.70	4.10	4.60	5.10	0.00	4.40	4.20	4.20	4.20	4.30	-----	-----
25	4.70	4.90	4.60	5.10	0.10	4.40	4.20	4.20	4.20	4.30	-----	-----
26	4.70	4.10	4.50	5.10	0.30	4.30	4.20	4.20	4.20	4.30	-----	-----
27	4.70	4.80	4.60	5.20	0.50	4.20	4.20	4.20	4.20	4.50	-----	-----
28	4.70	4.80	4.50	5.00	0.50	4.20	4.20	4.20	4.20	4.50	-----	-----
29	4.60	-----	4.60	5.50	0.40	4.10	4.20	4.20	4.20	4.50	-----	-----
30	4.60	-----	4.60	5.40	0.30	4.20	4.10	4.20	4.20	4.40	-----	-----
31	4.50	-----	4.50	-----	-----	4.10	4.20	4.20	4.40	-----	-----	-----

ESTIMATED MONTHLY DISCHARGE  
Of Provo River, near Provo, Utah, for 1901.  
(Drainage area, 640 square miles.)

Month.	Discharge in Second-Feet.			Total in Acre Feet.	Run-Off.	
	Maximum.	Minimum.	Mean.		Sec.-ft. per Sq. mile.	Depth in Inches.
Jan.	353	279	314	19,307	0.49	0.56
Feb.	1,658	258	471	26,158	0.74	0.77
March	411	302	333	20,475	0.52	0.60
April	788	302	392	23,326	0.01	0.68
May	2,093	587	1,181	72,617	1.85	2.13
June	875	224	399	23,742	0.62	0.69
July	240	224	239	14,006	0.37	0.43
Aug.	240	224	238	14,034	0.37	0.43
Sept.	240	240	240	14,281	0.38	0.42
Oet.	302	240	257	15,802	0.40	0.46
Nov.	279	279	279	16,602	0.44	0.49
Dec.	*		279	17,155	0.44	0.51
The Period	2,093	224	385	278,795	0.60	8.17

\*Estimated.

DISCHARGE MEASUREMENTS  
Of Provo River, near Provo, Utah, for 1902.

Date.	Hydrographer.	Gage height.	Discharge	
			Feet.	Second-ft.
January 26	G. L. Swendsen	4.00	204	
March 10	do.	4.35	230	
April 14	do.	4.50	395	
May 5	do.	4.00	414	
July 26	do.	4.10	202	
September 20	do.	4.00	172	
November 17	do.	3.05	165	
December 27	do.	4.00	178	

The observations of this station during 1903 have been made under the direction of G. L. Swendsen, district hydrographer.

DISCHARGE MEASUREMENTS  
Of Provo River, near Provo, Utah, for 1903.

Date.	Hydrographer.	Gage height.	Discharge	
			Feet.	Second ft.
January 10	G. L. Swendsen	4.02	182	
April 4	C. Tanner	4.00	381	
May 27	do.	4.75	303	
June 5	do.	6.10	1,107	
July 9	do.	4.28	220	
August 3	do.	4.20	103	
September 20	do.	4.20	182	
October 21	do.	4.40	216	

MEAN DAILY GAGE HEIGHT.  
In feet, of Provo River, near Provo, Utah, for 1903.

Day.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.
1		4.35	4.25	4.15	4.35	4.40	4.55
2		4.35		4.15	4.40	4.40	4.55
3		4.35	4.20	4.15	4.40	4.40	4.55
4		4.30	4.20	4.10		4.40	4.55
5				4.20	4.40	4.40	4.55
6		4.30	4.20		4.40	4.40	
7		6.10	4.30	4.20	4.10	4.40	4.40
8		5.90	4.30	4.20	4.15	4.35	
9		5.97	4.80		4.15	4.35	4.45
10		5.90	4.25	4.20	4.20	4.35	4.55
11		5.73	4.30	4.20	4.30	4.35	4.55
12		5.77		4.20	4.30	4.35	4.55
13		5.67	4.30	4.20		4.35	4.80
14			4.30	4.25	4.30	4.35	4.70
15		5.60	4.30	4.20	4.30	4.40	
16		5.47	4.30		4.25	4.40	4.65
17		5.42	4.30	4.20	4.25	4.10	4.65
18		5.37	4.30	4.20	4.20		4.65
19		5.30		4.20	4.20	4.40	4.40
20		5.22	4.30	4.20		4.40	4.60
21			4.30	4.20	4.20	4.40	4.60
22		5.05	4.30	4.20	4.25	4.40	
23		5.00	4.30		4.25	4.35	4.55
24		4.85	4.30	4.15	4.25	4.35	4.50
25		4.70	4.30	4.15	4.25		4.55
26		4.60		4.15	4.25	4.35	4.55
27		4.55	4.30	4.15		4.35	4.55
28			4.30	4.20	4.25	4.35	4.50
29			4.50	4.27	4.20	4.30	4.40
30			4.35	4.25		4.30	4.55
31				4.25	4.10		4.40

RATING TABLE  
For Provo River, near Provo, Utah, for 1903.

Gage height.	Discharge.	Gage height.	Discharge.	Gage height.	Discharge.	Gage height.	Discharge.
Feet.	Sec.-feet.	Feet.	Sec.-feet.	Feet.	Sec.-feet.	Feet.	Sec.-feet.
4.0	165	4.0	332	5.2	620	5.8	980
4.1	168	4.7	375	5.3	670	5.9	1,050
4.2	188	4.8	420	5.4	730	6.0	1,120
4.3	218	4.0	405	5.5	790	6.1	1,195
4.4	253	5.0	515	5.6	850		
4.5	291	5.1	605	5.7	915		

Table uncertain owing to change of gage and an obstruction in the river during the latter part of the year.

ESTIMATED MONTHLY DISCHARGE  
Of Provo River, near Provo, Utah, for 1903.

Month.	Discharge in Second-Feet.			Total in Acre Feet.	Run-Off.	
	Maximum.	Minimum.	Mean.		Sec.-ft. per Sq. mile.	Depth in Inches.
June 7-30	1,195	245	685	32,608	1.07	0.77
July	235	203	218	13,404	.34	.39
Aug.	203	168	187	11,498	.29	.53
Sept.	218	168	195	11,603	.32	.36
Oct.	253	235	245	15,004	.38	.44
Nov.	420	253	306	18,208	.48	.54
Dec.	311	253	292	17,954	.45	.52
The period				120,330	.48	3.35

Sunday discharges estimated.

The observations at this station during 1904 have been under the direction of G. L. Swendsen, district engineer.

DISCHARGE MEASUREMENTS  
Of Provo River, near Provo, Utah, for 1904.

Date	Hydrographer.	Area of section, Square feet.	Mean velocity, ft. per second.	Gage height, Foot.	Dis- charge,	
					Second feet.	
January 5	C. Tanner	115	2.48	4.50	285	
February 10	do	93	2.07	4.22	192	
March 12	do	132	2.72	4.05	388	
March 23	W. P. Hardesty	128	3.00	4.70	305	
April 16	C. Tanner	170	3.03	5.16	617	
May 10	do	253	5.60	0.25	1,300	
June 15	H. S. Kleinschmidt	251	5.37	0.25	1,305	
June 18	do	200	5.27	5.70	1,059	
July 12	do	95	2.50	4.30	237	
July 12	do	101	2.47	4.30	241	
July 26	do	81	2.31	4.04	187	
October 31	W. Swendsen	70	2.06	4.00	156	
December 7	do	52	1.76	3.02	91	
December 20	do	61	1.70	3.04	109	

**MEAN DAILY GAGE HEIGHT.**  
In feet, of Provo River, near Provo, Utah, for 1904.

Day.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
1	4.40	4.55	4.73	4.71	*4.88	6.30	4.59	4.09	3.99	3.74	3.98	4.12
2	4.40	4.40	4.81	4.66	4.87	6.28	4.53	4.02	4.02	3.70	3.97	4.20
3	4.40	4.40	4.75	4.70	4.95	6.58	4.48	4.00	4.08	3.76	4.00	4.02
4	4.40	4.40	4.63	4.77	5.17	6.30	4.43	4.00	4.01	3.78	3.98	4.05
5	4.40	4.45	4.65	4.71	4.97	6.33	4.46	4.03	3.99	3.84	3.95	4.00
6	4.40	*4.45	4.65	4.68	4.99	6.22	4.54	4.00	4.02	3.80	3.96	3.90
7	4.40	*4.40	4.66	4.66	5.00	6.09	4.47	4.03	3.99	3.85	3.94	3.95
8	4.40	4.40	4.73	4.65	5.04	6.36	4.47	4.01	4.01	3.80	3.90	4.00
9	4.40	4.45	4.96	4.67	5.09	6.43	4.27	4.07	4.00	3.89	3.97	3.95
10	4.40	4.40	4.70	4.69	5.39	6.46	4.28	4.01	3.98	3.94	3.98	4.00
11	4.40	4.46	4.84	4.79	5.53	6.49	4.23	4.01	4.00	3.82	3.95	4.02
12	4.45	4.51	4.65	4.89	5.04	6.54	4.21	4.04	3.99	3.90	3.92	4.10
13	4.47	4.52	4.61	4.95	5.69	6.51	4.18	4.04	4.18	3.80	3.99	4.10
14	4.50	4.40	4.60	5.07	5.74	6.51	4.18	4.07	3.73	3.86	4.02	4.08
15	4.30	4.40	4.69	5.10	5.84	6.29	4.02	4.17	3.74	3.90	4.00	4.09
16	4.30	4.02	4.07	5.17	5.92	6.00	4.13	4.16	3.71	4.00	4.00	4.10
17	*4.32	4.65	4.63	5.00	5.98	5.97	4.12	4.11	3.77	4.04	4.00	4.10
18	4.35	4.53	4.04	5.07	6.15	5.84	4.00	4.10	3.83	3.92	4.17	4.00
19	4.22	4.52	4.64	5.02	0.37	*4.84	4.10	4.00	3.81	3.96	4.00	4.02
20	4.27	4.56	4.71	5.25	6.21	5.85	4.00	4.11	3.85	3.90	4.10	3.95
21	4.22	4.59	4.69	5.24	6.15	5.81	4.11	4.08	3.89	3.97	4.00	4.00
22	4.30	4.70	4.63	5.10	6.25	5.50	4.11	4.05	3.86	3.92	4.00	4.10
23	4.30	5.28	4.65	5.05	6.44	5.40	4.09	4.03	3.89	3.92	4.01	4.11
24	4.45	5.20	4.07	4.88	6.80	5.23	4.25	4.00	3.89	3.97	4.00	4.12
25	4.45	5.53	4.67	4.95	7.26	5.12	4.18	4.05	*3.89	3.95	4.05	4.10
26	4.35	5.38	4.64	4.03	7.23	5.01	4.10	4.05	3.89	3.96	4.07	3.98
27	4.40	4.97	4.60	4.96	7.13	4.96	4.07	4.03	3.86	3.95	4.10	4.05
28	4.35	4.90	4.62	5.03	0.86	4.85	4.21	4.03	3.85	3.97	4.20	4.08
29	4.40	4.77	5.23	5.01	0.40	4.77	4.06	4.08	3.76	3.97	4.05	3.98
30	4.40	-----	5.02	4.98	0.40	4.60	4.07	4.05	3.71	3.96	4.05	3.92
31	4.40	-----	4.83	-----	0.35	-----	4.02	3.00	-----	3.94	-----	4.25

\*Interpolated.

**RATING TABLE**

For Provo River, near Provo, Utah, from January 1 to December 31, 1904.

Gage height.	Discharge.						
3.60	68	4.30	220	5.40	775	6.40	1,400
3.65	73	4.40	253	5.50	811	6.50	1,505
3.70	70	4.50	200	5.60	910	6.60	1,640
3.75	86	4.60	331	5.70	980	6.70	1,715
3.80	94	4.70	376	5.80	1,050	6.80	1,700
3.85	103	4.80	425	5.90	1,120	6.90	1,805
3.90	113	4.90	477	6.00	1,192	7.00	1,915
3.95	124	5.00	532	0.10	1,265	7.10	2,025
4.00	136	5.10	589	6.20	1,340	7.20	2,105
4.10	162	5.20	619	6.30	1,415	7.30	2,185
4.20	100	5.30	711				

The above table is applicable only for open-channel conditions. It is based upon 17 discharge measurements made during 1903 and 1904. It is well defined between gage heights 4 feet and 6.25. The table has been extended beyond these limits.

**ESTIMATED MONTHLY DISCHARGE  
Of Provo River, near Provo, Utah, for 1904.  
(Drainage area, 640 square miles.)**

Month.	Discharge in Second-Feet.			Total In Acre-Feet.	Run-Off.	
	Maximum.	Minimum.	Mean.		Sec.-ft. per Sq. mile.	Depth in Inches.
Jan. -----	290	196	244	15,000	0.381	0.439
Feb. -----	861	253	373	21,460	.583	.629
March -----	667	331	388	23,860	.606	.609
April -----	680	353	486	28,920	.759	.847
May -----	2,153	461	1,145	70,410	1.79	2.06
June -----	1,625	371	1,131	67,300	1.77	1.98
July -----	326	136	202	12,420	.316	.364
Aug. -----	182	134	149	9,162	.233	.209
Sept. -----	184	80	117	6,092	.183	.204
Oct. -----	146	79	113	6,948	.177	.204
Nov. -----	190	113	139	8,271	.217	.242
Dec. -----	205	113	149	9,162	.233	.269
The year	2,153	79	386	279,000	.004	8.20

**ESTIMATED MONTHLY DISCHARGE  
Of Telluride Power Company's Flume, near Provo, Utah, for 1904.**

Month	Discharge in second-feet.			Total in acre-feet
	Maximum	Minimum	Mean	
May 15-31*	65	0	42.1	1,440
June	85	20	38.5	2,291
July	76	0	53.9	3,314
August	82	36	61.1	3,767
September	90	32	58.4	3,475
October	81	58	71.0	4,403
November	77	48	63.0	3,740
December	81	31	56.0	3,443
The period				25,870

\*Flow began May 15.

Note.—To get total flow of Provo River at head of diversion dams, the flume discharge should be added to that of the gaging station given above.

**DISCHARGE MEASUREMENTS  
Of Provo River, near Provo, Utah, for 1905.**

Date.	Hydrographer.	Area of Mean Width Section			Gage height	Dig. charge
		Feet	Sq. Ft.	Sec.	Pt. per	Second- Foot
March 4.....	Henry Kleinschmidt...	73	110	2.58	4.50	300
May 24.....	W. G. Swendsen.....	76	138	3.52	4.95	485
August 20....	A. B. Larson.....	32	41	.02	3.55	23

\*Measurement made 100 feet above regular station.

## DAILY GAGE HEIGHT

In feet, of Provo River, near Provo, Utah, for 1905.

Day.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
1	4.1	4.21	4.51	4.4	4.78	5.30	4.05	3.65	3.58	3.66	3.51	3.81
2	3.98	4.42	4.56	4.34	4.8	5.63	3.93	3.54	3.5	3.75	3.56	3.81
3	4.12	4.6	4.58	4.37	4.77	5.7	3.87	3.69	3.44	3.76	3.59	3.68
4	4.3	4.52	4.65	4.32	4.72	5.05	3.95	3.52	3.57	3.68	3.52	3.8
5	4.22	4.51	4.46	4.3	4.5	5.87	3.83	3.61	3.67	3.68	3.56	3.62
6	4.14	4.52	4.66	4.3	4.34	5.77	4.0	3.55	3.7	3.71	3.52	3.77
7	4.2	4.21	4.18	4.35	4.22	5.05	3.95	3.53	3.6	3.71	3.52	3.8
8	4.4	4.28	4.0	4.34	4.4	5.86	3.93	3.56	3.58	3.66	3.55	3.08
9	4.1	4.11	3.98	4.24	4.47	6.38	3.83	3.5	3.63	3.69	3.55	3.49
10	4.1	4.14	3.91	4.6	4.5	5.97	3.65	3.51	3.64	3.7	4.04	3.45
11	4.1	4.08	3.88	4.68	4.49	5.65	3.63	3.55	3.48	3.61	3.02	3.45
12	4.38	4.08	4.2	4.35	4.28	5.19	3.6	3.55	3.63	4.05	3.48	—
13	4.1	4.01	4.14	4.25	4.3	5.75	3.6	3.53	3.6	4.03	3.51	—
14	4.12	4.0	4.0	4.4	4.28	5.75	3.7	3.49	3.62	3.06	3.47	—
15	4.05	4.3	4.44	4.20	5.29	5.63	3.67	3.52	3.64	3.98	3.68	—
16	4.07	4.09	5.52	4.45	4.4	5.5	3.03	3.57	3.63	4.0	3.6	—
17	3.70	4.2	4.5	4.62	4.45	5.23	3.6	3.5	3.60	3.90	3.62	—
18	3.78	4.1	4.4	4.52	4.43	5.0	3.63	3.45	3.64	3.89	3.62	—
19	4.02	4.12	4.5	4.51	4.76	4.87	3.65	3.68	3.65	3.91	—	—
20	4.1	4.15	4.57	4.51	4.77	4.78	3.62	3.61	3.58	3.76	—	—
21	3.56	4.14	4.18	4.50	4.80	4.71	3.5	3.53	3.61	3.89	—	—
22	4.04	4.11	4.45	4.5	5.06	4.77	3.5	3.46	3.63	3.82	—	—
23	4.14	4.16	4.43	—	5.1	4.85	3.5	3.55	3.57	3.88	—	—
24	4.13	4.25	4.40	4.4	5.00	4.7	3.55	3.68	3.57	3.8	—	—
25	4.05	4.22	4.43	4.45	5.0	4.43	3.6	3.59	3.51	3.55	3.74	—
26	4.08	4.21	4.43	4.75	5.02	4.17	3.6	3.59	3.52	3.6	3.03	—
27	4.06	4.42	4.40	4.04	5.1	4.2	3.58	3.56	3.49	3.61	8.0	—
28	4.03	4.5	4.48	4.84	5.2	4.15	3.57	3.57	3.55	3.59	3.05	—
29	4.03	—	4.43	4.72	5.22	4.05	3.6	—	3.85	3.58	3.05	—
20	4.08	—	4.43	4.78	5.16	3.03	3.6	—	3.78	3.05	3.01	—
31	4.13	—	4.34	—	5.1	—	—	—	3.64	—	—	—

## STATION RATING TABLE.

For Provo River, near Provo, Utah, from January 1 to December 31, 1905.

Gage height, Feet.	Discharge, Sec.-feet.						
3.40	12	4.20	177	5.00	532	5.80	1,050
3.60	20	4.30	212	5.10	580	5.90	1,120
3.60	31	4.40	260	5.20	610	6.00	1,102
3.70	46	4.50	200	5.30	711	6.10	1,205
3.80	61	4.60	332	5.40	775	6.20	1,340
3.90	87	4.70	377	5.50	841	6.30	1,415
4.00	114	4.80	425	5.60	910	6.40	1,490
4.10	144	4.00	477	5.70	980	—	—

NOTE.—The above table is applicable only for open-channel conditions. It is based on discharge measurements made during 1903-1905. It is well defined between gage heights 3.5 feet and 6.3 feet.

**DAILY DISCHARGE**  
 In second-feet, of Telluride Power Company's flume, near Provo, Utah,  
 for 1905.

Day	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec
1	24	52	40	40	45	79	103	130	136	173
2	29	40	62	35	62	88	141	130	124	184
3	23	41	78	40	70	85	117	130	125	170
4	29	38	77	20	68	82	126	145	124	178
5	36	36	49	24	75	74	148	150	127	183
6	41	36	57	50	61	106	131	130	130	175
7	43	34	66	41	62	80	139	127	130	163
8	33	45	68	24	59	76	142	130	127	155
9	37	55	63	70	75	80	137	135	129	167
10	44	50	49	30	96	69	137	127	162	169
11	46	26	59	32	95	52	133	130	170	170
12	27	78	65	39	90	87	136	130	160	150
13	38	60	66	53	101	80	-----	-----	160	171
14	25	51	62	48	90	88	-----	-----	155	168
15	43	55	54	50	98	85	-----	130	153	188
16	49	55	43	42	97	85	-----	131	160	185
17	41	48	59	58	100	70	-----	128	100	183
18	56	30	70	48	94	80	-----	126	100	187
19	62	83	45	42	92	105	-----	120	101	-----
20	41	66	55	48	85	124	-----	135	-----	-----
21	50	60	38	45	87	130	-----	126	-----	-----
22	62	65	40	41	87	131	-----	158	-----	-----
23	49	-----	50	42	87	117	-----	150	-----	-----
24	47	85	44	37	84	123	-----	158	-----	-----
25	38	75	48	69	81	114	133	161	-----	-----
26	40	-----	36	81	80	150	124	141	-----	-----
27	39	-----	65	45	80	146	122	135	-----	-----
28	32	50	48	47	80	121	119	142	-----	-----
29	44	37	32	40	77	-----	157	-----	-----	-----
30	53	33	44	64	61	78	137	-----	-----	-----
31	54	-----	30	-----	-----	-----	100	-----	-----	-----

**ESTIMATED MONTHLY DISCHARGE**  
 Of Provo River, near Provo, Utah, for 1905.  
 (Drainage area, 640 square miles.)

Month.	Discharge in Second-Feet.			Total in Acre Feet.	Run-Off,	
	Maximum.	Minimum.	Mean.		Sec.-ft. per Sq. mile.	Depth in Inches.
Jan.	250	27	142	8,731	0.223	0.250
Feb.	332	114	190	10,550	.207	.300
March	359	82	230	14,700	.373	.430
April	400	101	289	17,110	.460	.052
May	601	184	300	24,350	.610	.714
June	1,438	95	987	40,890	1.07	1.19
July	120	20	50.1	3,080	.078	.000
Aug.	44	10	26.8	1,018	.042	.018
*Sept.	70	15	42.6	1,000	.061	.032
Oct.	56	20	37.1	2,281	.058	.007
Nov.	120	21	73.0	4,344	.114	.127
Dec. 1-18	66	16	38.3	1,309	.000	.040
The period.	1,438	15	183	130,200	.280	3.81

\*Seventeen days.

**ESTIMATED MONTHLY DISCHARGE  
Of Telluride Power Company's flume, near Provo, Utah, for 1905.**

Month.	Discharge in Second-Feet.			Total in Acre Feet.
	Maximum.	Minimum.	Mean.	
March	62	23	41.3	2,539
April (27 days)	85	26	51.5	2,785
May	78	30	53.6	3,206
June	81	24	45.7	2,719
July 1-30	101	45	81.5	4,850
August 1-28	150	52	97.3	5,404
September 1-12, 25-30	163	117	136	4,836
October (27 days)	161	126	137	7,337
November 1-19	170	124	140	5,276
December 1-18	188	150	173	6,176
The period				45,210

NOTE.—To obtain total flow of Provo River at head of diversion dams, the flume discharge should be added to that of the gaging station given above.

It will be seen that the discharges given for the river above the Telluride Dam do not check with the discharges at the mouth of the canyon.

During low water, seepage amounting to about 30 second feet may be expected between the dam and the gaging station near the mouth of the canyon.

The reason for the discrepancy between the discharge above the Telluride Dam and the sum of the discharges of the Telluride tail race and river at the lower station could not be determined.

It is probably due mainly to the inaccuracies in the method of reporting discharge of flume. This was obtained by calculation from the observed power output of the turbines. This was apparently often reported at a time when the load on the turbines was fluctuating rapidly and hence did not represent the average flow for the day.

H. S. Kleinschmidt.

**MONTHLY DISCHARGE**  
 In thousands of acre feet, Provo River at mouth of Canyon, near Provo,  
 Utah.

(Drainage area, 640 square miles.)

Year.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Total.	Run-Off.		
														Sec. Ft. per Sq. Mi.	Depth in Inches	
1889																
1890	18.57	20.92	31.90	49.98	118.45	70.45	19.31	15.50	14.52	18.70	18.02	23.62				
1891	15.68	17.24	30.36	28.42	73.40	26.01	15.90	18.68	23.39	22.61	21.09	305.59	0.79	12.13		
1892	20.30	20.18	22.20	22.45	66.26	80.30	27.12	12.36	11.96	14.82	16.60	340.04	0.73	10.71		
1893	15.43	15.27	21.58	20.24	76.06	94.02	26.50	15.31	15.25	21.39	23.00	25.40	388.64	0.83	9.96	
1894	23.37	21.72	29.38	40.88	80.10	66.05	19.18	15.19	25.59	23.37	22.31	20.97	397.29	0.85	11.56	
1895	20.97	18.11	25.89	40.64	74.77	32.35	16.05	13.22	12.44	15.62	17.86	18.63	306.42	0.65	11.60	
1896	19.80	17.14	24.47	37.43	71.69	92.71	22.61	19.12	18.39	20.84	25.04	23.98	394.22	0.65	9.07	
1897	24.60	27.77	25.53	30.94	114.12	47.37	18.14	13.84	15.47	27.61	25.77	22.87	414.00	0.86	11.60	
1898	17.40	17.05	22.86	33.68	78.84	48.97	12.42	9.96	9.94	12.19	16.72	17.16	279.03	0.80	12.12	
1899	17.65	14.82	34.68	30.88	71.88	123.34	41.75	20.72	19.64	22.75						
1900																
1901	19.31	26.16	20.48	23.33	72.62	23.74	14.70	14.63	14.28	15.80	16.60	17.16	278.80	0.60	8.19	
1902																
1903																
1904	15.00	21.46	23.87	28.92	71.85	63.59	15.72	12.92	10.44	11.35	12.02	12.59	305.77	0.66	8.94	
1905	8.73	10.35	17.24	19.90	27.65	42.60	7.93	7.05	5.96	9.62	10.62	7.55	175.41	0.41	5.20	
Mean	18.22	19.11	25.32	35.91	82.14	63.77	19.60	13.55	13.98	17.31	18.68	18.76	346.93	0.74	10.10	

### **Provo River at the Rio Grande Western Railway Bridge, near Provo, Utah.**

This station was established January 25, 1905. It is located at the Rio Grande Western Railway bridge about 2 miles northwest of the town of Provo, below all points of diversion and inflowing streams. It replaces the old station maintained at the San Pedro, Los Angeles and Salt Lake Railroad bridge, about 300 feet below, the conditions at the latter point being so changed by the reconstruction of the bridge that the section could no longer be used.

The purpose of the station is to determine the amount of water discharged by the Provo into Utah Lake. As the entire normal spring and summer flow is diverted for irrigation above this point, the station is maintained only during flood and winter seasons.

The channel is straight for about 150 feet above and 200 feet below the station. The normal flow is confined to a comparatively narrow channel near the center, but the high-water channel is much wider, including a small timbered flat on both sides. The railroad grade, however, prevents any overflow at the gaging section. The bed of the stream is composed of coarse gravel and is liable to change during floods. The velocity is uniform but high, ranging from 4 to 7 feet. Information in regard to ice conditions is incomplete.

Discharge measurements are made from a foot plank, fastened to 4 by 4 inch pieces of fir bolted to the lower chord on the upstream side of the bridge. The plank is graduated with paint, beginning at the north face of the masonry abutment on the south end of the bridge, which is the initial point for soundings. A guy line is stretched 24 feet upstream from the foot plank.

The gage, which is read daily by Lars Thompson, a farmer, is of the inclined type, consisting of a 4 by 4 inch by 16-foot timber of Oregon fir drift-bolted to the old piles and sills of the former bridge, about 10 feet east of the present bridge, the incline being such that 15.88 feet along

the piece equal 10 feet vertical. It is graduated with saw cuts and paint to read vertically. The gage is referred to bench marks as follows: (1) A standard United States Geological Survey metallic plug, cemented in the masonry wall, 0.5 foot south of its face at the southeast corner of the bridge; this is 11.29 feet above the gage datum and is so stamped. (2) A cross cut in the top of the same wall at the southwest corner of the bridge; elevation above gage datum, 11.25 feet.

#### DISCHARGE MEASUREMENTS

Of Provo at the Rio Grande Western Railway bridge, near Provo, Utah,  
in 1905.

Date	Hydrographer	Width	Area of section	Mean velocity	Gage height	Discharge
		Feet	Square feet	Feet per second	Feet	Second Feet
January 25	H. S. Kleinschmidt	44	54	3.52	2.80	101
February 14*	do.	37	38	3.12	2.53	120
February 16	do.	43	49	3.40	2.74	170
March 9	do.	43	49	3.30	2.70	166
June 21	W. G. Swondson	17	8.5	1.52	2.00	12.0

#### DAILY GAGE HEIGHT

In Feet, of Provo River at the Rio Grande Western Railway bridge,  
near Provo, Utah, for 1905.

Day	Jan.	Feb.	Mar.	Apr.	May	June	Day	Jan.	Feb.	Mar.	Apr.	May	June
1	2.85	2.76	2.0	2.7	2.55	17	2.75	2.65	2.75	2.0	3.05		
2	3.1	2.75	2.65	2.8	3.05	18	2.7	2.65	2.7	2.0	2.8		
3	3.15	2.8	2.62	2.8	3.5	19	2.7	2.7	2.0	2.0	2.47		
4	3.0	2.0	2.63	2.7	3.7	20	2.7	2.85	2.7	2.25	2.18		
5	2.05	3.0	2.5	2.6	3.75	21	2.7	2.75	2.75	2.1	2.0		
6	2.0	3.0	2.5	2.4	3.0	22	2.7	2.75	2.0	2.15	Dry.		
7	2.85	2.0	2.47	2.25	3.51	23	2.7	2.7	2.0	2.0	2.6		
8	2.8	2.8	2.46	2.2	3.65	24	2.7	2.05	2.0	2.02			
9	2.85	2.7	2.0	2.2	4.27	25	2.7	2.05	2.85	2.58			
10	2.85	2.7	2.75	2.4	4.2	26	2.08	2.05	2.75	2.03			
11	2.85	2.7	2.85	2.3	3.73	27	2.8	2.05	2.8	2.85	2.09		
12	2.8	2.7	2.8	2.16	3.55	28	2.8	2.05	2.7	2.0	2.75		
13	2.0	2.07	2.8	2.03	3.53	29	2.8	2.05	2.7	2.75	2.8		
14	2.65	2.7	2.75	2.1	3.45	30	2.8	2.05	2.7	2.7	2.05		
15	2.7	2.7	2.7	2.0	3.43	31	2.8	2.05	2.05	2.55			
16	2.8	2.05	2.7	2.25	3.25								

NOTE.—Station discontinued June 22.

**Provo River at San Pedro, Los Angeles & Salt Lake Railroad Bridge, near Provo, Utah.**

This station was established May 24, 1903, by C. Tanner. It is located at the San Pedro, Los Angeles and Salt Lake Railroad bridge, one-half mile from Provo, Utah. The Rio Grande Western Railway bridge is about 300 feet east of the station. The gage is a vertical rod fastened to a cottonwood post, which is set in the bed of the river near the left or south bank. The top of the post is spiked to a stringer of the bridge. The gage is read once each day by Lars Thomson. Discharge measurements at high water are made from the railroad bridge, to which the gage is attached. At low stages measurements are made by wading. The initial point for soundings is the north face of the left or south abutment. The channel is straight for 175 feet above and for 300 feet below the station. The current is swift. There are two channels at low water and one channel at high water. Both banks have an elevation of about 8 feet above the river bed, and will overflow only at extreme flood stages. The bed of the stream is composed of gravel and cobblestones and is somewhat shifting. Bench mark No. 1 is a United States Geological Survey standard bench mark set in cement on the top of the south abutment of the bridge, to which the gage is attached. Its elevation is 6.68 feet above the zero of the gage. Bench mark No. 2 is a cross cut in the top of the parapet wall of the south abutment of the Denver and Rio Grande Railroad bridge, 275 feet upstream from the gaging station. Its elevation is 11.26 feet above the zero of the gage.

The observations at this station during 1903 have been made under the direction of G. L. Swendsen, district hydrographer.

## DISCHARGE MEASUREMENTS

Of Provo River at S. P. L. A. and S. L. R. R. bridge, Provo, Utah, in 1903.

Date,	Hydrographer.	Gage height.	Discharge
		Feet.	Second-ft.
May 24	C. Tanner	0.92	180
June 6	do.	1.82	738
October 31	do.	.20	10
November 23	do.	.88	130

## MEAN DAILY GAGE HEIGHT.

In feet, of Provo River at S. P., L. A. and S. L. R. R. bridge, Provo, Utah, for 1903.

Day	May	June	Nov.	Dec.	Day	May	June	Nov.	Dec.
1		1.06		0.89	17		1.40	*	
2		1.42			18		1.38	0.78	0.07
3		1.08			19		1.28		
4		1.74			20		1.20		
5		1.84			21		1.10		
6		1.80		.05	22		1.08	.88	
7		1.78			23		.90		.04
8		1.80		.80	24	0.02	.74		
9		1.92	X		25		.82	.44	.90
10		1.72			26		.08	.12	
11		1.74			27		.70	.00	
12		1.08		.00	28		.08	*	
13		1.08			29		.08		.00
14		1.68			30		.06		
15		1.04			31		.82		
16		1.44		.00					

\*No discharge from June 27 to November 18, 1903.

## RATING TABLE

For Provo River at S. P., L. A. and S. L. R. R. bridge, Provo Utah, for 1903.

Gage height.	Discharge.						
Feet.	Sec.-feet.	Feet.	Sec.-feet.	Feet.	Sec.-feet.	Feet.	Sec.-feet.
0.0	0	0.5	55	1.0	200	1.5	405
.1	3	0	70	1.1	242	1.6	510
.2	10	.7	101	1.2	280	1.7	620
.3	22	.8	130	1.3	312	1.8	710
.4	37	.0	103	1.4	400	1.9	810

## ESTIMATED MONTHLY DISCHARGE

Of Provo River at S. P., L. A. and S. L. R. R. bridge, Provo, Utah, for  
1903.

Month.	Discharge in Second-Feet.			Total In Acre Feet.
	Maximum.	Minimum.	Mean.	
May 24-31.....				116 1,841
June 1-27.....	832	2	443	23,725
November 18, 22, 25.....				146
December (8 days.).....	189	150	168	*10,330

\*The flow was so uniform that the mean for 8 days (168) was assumed to hold for the entire month and the acre-feet were computed for the whole month.

The observations at this station during 1904 have been made under the direction of G. L. Swendsen, district engineer.

## DISCHARGE MEASUREMENTS

Of Provo River at S. P., L. A. and S. L. R. R. bridge, near Provo, Utah,  
in 1904.

Date	Hydrographer	Area of section	Mean velocity	Gage height	Discharge
January 15.....	C. Tanner.....	40	2.07	0.00	146
February 12.....	do.....	75	2.55	1.00	100
February 23.....	do.....	130	3.03	1.75	403
March 13.....	do.....	78	3.30	1.20	203
March 24.....	W. P. Hardesty.....	80	3.30	1.32	271
April 25.....	C. Tanner.....	90	3.82	1.50	380
May 21.....	W. Swendsen.....	150	5.11	2.10	705
June 2.....	do.....	230	4.45	2.42	1,026
June 16.....	H. S. Kleinschmidt.....	172	4.72	2.35	810
June 18.....	do.....	150	4.50	2.08	703
October 31.....	W. Swendsen.....	21	3.04	—.10	65
December 3.....	do.....	40	2.47	.40	90
December 21.....	do.....	45	3.42	.75	153

## MEAN DAILY GAGE HEIGHT.

In feet, of Provo River at S. P., L. A. and S. L. R. R. bridge, near Provo,  
Utah, for 1904.

Day	Jan.	Feb.	Mar.	Apr.	May	June
1	0.92	0.93	1.36	1.36	1.42	2.60
2			1.38	1.32	1.40	2.60
3			1.04	1.30	1.30	2.70
4				1.28	1.34	1.44
5					1.36	2.30
6					1.40	2.30
7					1.48	2.30
8					1.54	2.36
9					1.50	2.50
10					1.52	2.40
11					1.60	2.42
12					1.70	2.50
13					1.96	2.60
14					2.00	2.54
15					2.10	2.45
16					2.10	2.30
17					2.24	2.20
18					2.24	2.20
19					2.30	2.00
20					2.40	1.96
21					2.40	1.84
22					2.36	1.64
23					2.34	1.60
24					2.50	1.50
25					2.60	1.46
26					3.20	1.00
27					3.20	1.00
28					3.30	.80
29					3.00	*
30					2.70	
31					2.60	

\*Stream dry.

## RATING TABLE

For Provo River at S. P., L. A. and S. L. R. R. bridge, near Provo, Utah,  
from January 1 to June 5, 1904.

Gage height, Feet.	Discharge, Sec.-foot.						
0.00	130	1.00	433	2.20	805	2.80	1,247
1.00	160	1.70	488	2.30	870	2.00	1,321
1.10	190	1.80	544	2.40	933	3.00	1,305
1.20	235	1.00	605	2.50	1,027	3.10	1,400
1.30	270	2.00	667	2.60	1,100	3.20	1,513
1.40	328	2.10	731	2.70	1,173	3.30	1,617
1.50	380						

The above table is applicable only for open-channel conditions. It is based upon 8 discharge measurements made during January to June 5, 1904. It is well defined between gage heights 0.00 foot and 2.20 feet. The table has been extended beyond these limits. Above gage heights 2.20 feet the rating curve is a tangent, the difference being 74 per tenth.

## RATING TABLE

For Provo River at S. P., L. A. and S. L. R. R. bridge near Provo, Utah,  
from June 6 to December 31, 1904.

Gage height. Feet.	Dis-charge. Sec.-feet.						
0.10	70	0.80	.170	1.50	450	2.20	750
0.00	65	0.70	144	1.40	414	2.10	708
0.20	78	0.90	204	1.60	498	2.30	792
0.30	87	1.00	246	1.70	540	2.40	834
0.40	96	1.10	288	1.80	582	2.50	876
0.50	108	1.20	330	1.90	624	2.60	918
0.60	123	1.30	372	2.00	666	2.70	960

The above table is applicable only for open-channel conditions. It is based upon 5 discharge measurements made during June to December, 1904. It is well defined between gage heights 0.10 foot and 2.00 feet. The table has been extended beyond these limits. Above gage height 0.90 foot the rating curve is a tangent, the difference being 42 per tenth.

## ESTIMATED MONTHLY DISCHARGE

Of Provo River at S. P., A. L. and S. L. R. R. bridge near Provo, Utah,  
for 1904.

(Drainage Area 680 Square Miles.)

Month.	Discharge in Second-Feet.			Total in Acre Feet.	Run-Off,	
	Maximum.	Minimum.	Mean.		Sec.-ft. per Sq. mile.	Depth in Inches.
Jan.* -----	106	130	140	8,977	0.21	0.24
Feb.* -----	734	130	253	14,550	.37	.30
March -----	465	235	204	18,080	.43	.50
April -----	510	270	353	21,000	.52	.68
May -----	1,017	328	810	40,800	1.10	1.38
June 1-28**	1,173	0	653	38,800	.00	1.01
July -----	0	0	0	0	0	0
August -----	0	0	0	0	0	0
Sept. -----	0	0	0	0	0	0
October -----	-----	-----	52	***1,782	.08	.01
November -----	-----	-----	84	4,000	.12	.13
December -----	-----	-----	138	8,404	.20	.23
The year	1,017	0	292	100,600	0.31	4.40

\*Discharge interpolated for missing gage heights.

\* Stream dry June 28 to October 15.

\*\*Estimated October 15, when flow began, to December 31 from meter measurements.

## PRECIPITATION

At Heber, Utah, in drainage basin of Provo River.

Year	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	Annual.
1893	1.80	2.05	3.35	2.15	0.76	0.02	0.27	0.68	0.28	0.73	1.90	3.05	18.84
1894	3.65	1.60	1.65	0.41	0.54	0.79	0.62	1.16	2.47	1.70	0.00	2.60	17.19
1895	3.22	1.93	1.45	0.48	1.54	0.25	1.37	0.00	0.50	0.40	0.60	1.52	13.26
1896	2.10	0.95	2.46	2.40	1.85	0.09	3.35	0.55	1.44	1.26	1.32	0.75	18.52
1897	1.30	4.10	2.90	0.90	0.70	0.38	0.56	1.40	3.14	1.50	1.00	1.52	18.49
1898	1.40	0.50	3.30	1.25	7.04	0.83	0.25	0.04	1.10	1.44	1.60	1.10	19.43
1899	2.95	5.85	3.00	0.89	1.14	0.97	1.61	2.10	0.15	3.20	0.85	1.55	21.26
1900	1.06	1.50	0.34	2.53	0.10	0.20	0.25	0.31	1.20	1.47	4.42	0.22	13.66
1901	2.20	2.20	1.56	0.31	1.72	0.08	0.40	2.06	0.16	1.70	1.40	1.50	15.29
1902	0.50	1.03	1.46	1.88	0.49	0.37	0.15	0.50	0.45	0.45	1.77	1.01	10.00
1903	2.17	0.70	1.95	0.78	1.42	0.25	0.60	0.20	1.17	0.76	1.90	1.33	13.32
1904	2.10	3.00	3.48	0.96	2.01	0.73	0.20	0.88	0.16	1.22	0.00	1.01	16.74
1905	1.22	1.03	1.69	2.06	1.27	0.43	0.70	0.58	2.12	0.31	0.73	0.80	12.94
1906	3.10	1.58	3.03	1.23	2.01	1.10	0.97	3.11	0.10	0.43	1.54	2.45	22.00
Mean	2.05	2.06	2.32	1.32	1.66	0.46	0.85	0.95	1.03	1.18	1.30	1.50	16.78

## PRECIPITATION

At Provo, Utah, in drainage basin of Provo River.

Year	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	Annual.
1890	1.04	0.50	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
1891	1.16	1.05	0.50	-----	-----	-----	0.60	0.31	0.70	0.43	0.00	2.00	-----
1892	1.30	1.10	1.57	-----	0.41	0.10	0.20	0.15	1.70	0.03	2.32	-----	-----
1893	0.00	1.25	1.35	3.00	1.00	-----	-----	0.50	0.50	0.30	0.00	-----	-----
1894	2.35	1.50	1.30	0.40	0.10	0.50	0.03	-----	0.30	-----	-----	1.70	-----
1895	2.00	1.15	0.10	-----	0.21	-----	0.21	0.03	0.20	-----	1.37	-----	-----
1896	1.20	2.60	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
1897	0.82	0.61	0.87	0.72	5.47	1.55	0.35	0.31	0.00	1.31	1.08	0.80	13.05
1898	1.51	2.89	2.45	0.30	1.37	-----	-----	-----	0.00	2.70	0.01	1.05	-----
1899	0.45	0.35	0.05	1.65	0.32	-----	-----	1.13	0.00	3.50	0.12	-----	-----
1900	0.22	2.00	1.00	0.20	0.39	0.18	0.00	-----	-----	-----	0.85	0.08	-----
1901	0.35	1.12	1.30	2.14	0.36	0.10	0.11	0.20	-----	0.08	1.55	1.28	-----
1902	2.05	0.65	1.80	0.51	2.60	0.30	0.39	0.42	0.72	0.53	1.14	0.49	12.31
1903	1.72	2.27	3.75	1.56	2.11	0.42	0.39	0.45	0.01	1.50	0.60	1.05	15.32
1904	1.42	2.30	2.22	2.07	1.85	0.33	-----	-----	-----	-----	0.28	-----	-----
1905	1.03	0.09	2.80	3.18	2.80	0.46	0.10	1.80	0.70	0.30	3.20	2.76	20.03
Mean	1.10	1.41	1.60	1.35	1.73	0.55	0.22	0.60	0.41	0.00	1.28	1.30	12.50

## HOBBLE CREEK BASIN.

### Hobble Creek near Springville, Utah.

Hobble Creek rises on the western slope of the Wasatch Mountains and flows in a general southwesterly direction to Utah Lake. There is little overlying soil and but a scanty growth of timber or brush. The steep, narrow canyon in which the stream flows is broken here and there by narrow openings or flats, covered with a shallow deposit of boulders and soil and comprising irrigated farms. As these tracts lie along the banks of the creek, a large part of the water used on them is returned to the stream as seepage. There are no tributaries of importance, but short, intermittent streams, each of which is confined to a steep, narrow canyon, enter all along the course. There are no storage reservoirs, lakes, or marshes to control the flood discharge, which occurs in the spring as the result of melting snow. The entire normal summer flow is used for irrigation, but the diversion takes place for the most part at the mouth of the canyon below the gaging station.

The station was established March 23, 1904. It is located about 1 mile above the mouth of the canyon, 4 miles southeast of Springville, Utah, 600 feet northeast of the head of Mapleton Canal, and about 1,200 feet southwest of the Springville electric power plant.

The channel is straight for about 75 feet above and 50 feet below the station. Both banks are high and wooded. The bed of the stream is of loose, fine gravel, and shifts almost constantly. There is but one channel at all stages. The velocity ranges from 1 to 4.5 feet per second. As the normal winter flow comes largely from springs, the stream probably does not freeze at the station.

Discharge measurements are made by wading at a point near the gage. The initial point for soundings is a 2 by 4 inch post, located on the south bank near the water's edge.

The gage, which is read daily by J. B. Stevenson, an electrician, is a vertical staff, driven into the bed of the stream, and fastened at the top to an overhanging tree. The gage is referred to bench marks as follows: (1) A nail in the top of the 2 by 4 inch post used as the initial point for soundings; elevation above gage datum, 4.91 feet. (2) A nail in a post set 26 feet south of the initial point, elevation above gage datum,

12.38 feet. (3) A 30-penny nail in the east side of a pole of the electric transmission line, 97 feet northwest of the initial point; elevation, 21.80 feet above gage datum.

A description of this station, gage height and discharge data, and rating table are contained in Water-Supply Paper No. 133 of the United States Geological Survey, pages 268-270.

The observations at this station during 1904 have been made under the direction of G. L. Swendsen, district engineer.

**DISCHARGE MEASUREMENTS**  
Of Hobble Creek, near Springville, Utah, in 1904.

Date.	Hydrographer.	Area of section.	Mean velocity.	Gage height.	Discharge.
		Square ft.	Ft. per sec.	Feet.	Second-ft.
March 18-----	C. Tanner -----	17	1.13	1.26	20
March 28-----	W. P. Hardesty -----	20	1.24	1.34	25
April 18-----	E. C. Murphy and C. Tanner.	42	2.80	2.90	117
May 20-----	C. Tanner -----	35	3.30	2.85	114
May 20-----	W. Swendsen -----	36	3.72	2.85	124
June 1-----	do -----	21	3.80	2.05	78
June 17-----	H. S. Kleinschmidt.	19	3.53	1.85	68
July 10-----	do -----	10	2.17	1.40	23
September 16--	C. Tanner -----	7.7	1.78	1.27	14
September 15--	do -----	9	1.00	1.27	15
October 30-----	W. Swendsen -----	12	1.46	1.35	17
December 2-----	do -----	10	1.23	1.32	13
December 21-----	do -----	9.7	1.75	1.35	17

MEAN DAILY GAGE HEIGHT,  
In feet, of Hobble Creek, near Springville, Utah, for 1904.

Day.	Mar.	Apr.	May	June	July	Day.	Mar.	Apr.	May	June	July
1-----	1.76	3.00	2.15	*		17-----	-----	3.00	3.02	1.70	-----
2-----	1.72	2.05	2.05	-----		17-----	-----	3.00	3.02	1.70	-----
3-----	1.77	3.15	2.00	-----		18-----	-----	3.00	2.02	1.70	-----
4-----	1.82	3.35	1.05	-----		19-----	-----	3.00	2.03	1.00	-----
5-----	1.05	3.80	1.05	-----		21-----	-----	-----	2.55	1.05	-----
6-----	1.00	4.10	1.00	-----		22-----	-----	2.70	-----	1.00	-----
7-----	1.80	4.00	1.80	-----		23-----	-----	1.57	2.50	2.70	1.50
8-----	1.85	3.75	1.70	-----		24-----	-----	1.35	2.35	2.76	1.40
9-----	1.00	3.55	1.70	-----		25-----	-----	1.45	2.35	2.80	1.30
10-----	2.00	3.40	1.70	-----		26-----	-----	1.45	2.50	2.00	1.30
11-----	2.20	3.55	1.70	-----		27-----	-----	1.60	2.00	2.83	1.25
12-----	2.00	3.45	1.05	-----		28-----	-----	1.57	3.10	2.00	1.25
13-----	2.85	3.40	1.70	-----		29-----	-----	1.82	3.00	2.46	1.25
14-----	3.20	3.35	1.75	-----		30-----	-----	1.83	3.03	2.35	1.25
15-----	3.00	3.30	1.75	-----		31-----	-----	1.70	-----	2.30	-----
16-----	3.30	3.20	1.70	-----							

\*Observer discontinued gage reading.

**RATING TABLE**  
For Hobble Creek, near Springville, Utah, from January 1 to May 26, 1904.

Gage height.	Dis-charge.	Gage height.	Dis-charge.	Gage height.	Dis-charge.	Gage height.	Dis-charge.
Feet.	Sec.-feet.	Feet.	Sec.-feet.	Feet.	Sec.-feet.	Feet.	Sec.-feet.
1.20	17	1.70	46	2.40	88	3.30	141
1.25	19	1.75	49	2.50	94	3.40	147
1.30	22	1.80	52	2.60	100	3.50	153
1.35	25	1.85	55	2.70	106	3.60	159
1.40	28	1.90	58	2.80	112	3.70	165
1.45	31	2.00	64	2.90	118	3.80	171
1.50	34	2.10	70	3.00	123	3.90	177
1.55	37	2.20	76	3.10	120	4.00	182
1.60	40	2.30	82	3.20	135	4.10	188
1.65	43						

The above table is applicable only for open-channel conditions. It is based upon 4 discharge measurements made during March 18 to May 20, 1904. It is not well defined. The rating curve is a tangent, the difference being 6 per tenth. Indication of channel changing about May 26, 1904.

**RATING TABLE**  
For Hobble Creek, near Springville, Utah, from May 27 to November 26, 1904.

Gage height.	Dis-charge.	Gage height.	Dis-charge.	Gage height.	Dis-charge.	Gage height.	Dis-charge.
Feet.	Sec.-feet.	Feet.	Sec.-feet.	Feet.	Sec.-feet.	Feet.	Sec.-feet.
1.20	5	1.80	60	2.40	113	3.00	158
1.30	14	1.90	68	2.50	122	3.00	167
1.40	23	2.00	77	2.60	131	3.10	170
1.50	32	2.10	86	2.70	140	3.20	185
1.60	41	2.20	95	2.80	149	3.30	194
1.70	50	2.30	104				

The above table is applicable only for open-channel conditions. It is based upon 7 discharge measurements made during June 1 to December 21, 1904. It is not well defined. The rating curve is a tangent, the difference being 9 per tenth. Indication of channel changing about May 26, 1904.

**ESTIMATED MONTHLY DISCHARGE**  
**Of Hobble Creek, near Springville, Utah, for 1904.**  
**(Drainage area, 75 square miles.)**

Month.	Discharge in Second-Feet.			Total in Acre Feet	Run-Off.	
	Maximum.	Minimum.	Mean.		Sec.-ft. per Sq. mile.	Depth in Inches.
March	55	25	39.7	709	0.53	0.61
April	141	47	93.9	5,587	1.26	1.41
May	188	95	133	8,178	1.77	2.04
June	90	10	45.8	2,725	.61	.68
July*			31	1,960	.41	.47
August			20	1,220	.26	.30
September			16	950	.21	.23
October			18	1,090	.24	.28
November			16	950	.21	.23
December			16	980	.21	.24
The period				24,340	0.57	0.40

\*Observer, on July 1, discontinued gage reading, and read depth of water in cross section. Discharge for July to December, inclusive, was estimated from meter measurements and the depth of water in section.

**DISCHARGE MEASUREMENTS**  
**Of Hobble Creek, near Springville, Utah, in 1905.**

Date.	Hydrographer.	Width,	Area of section, Square feet.	Mean velocity, Ft. per second.	Gage height, Feet.	Dis- charge, Second- feet.
February 16	H. S. Klemischmidt	14	12	1.02	1.25	20
April 5	W. G. Swendsen	18	11	2.57	1.32	28
May 5	W. P. Hardesty	18	18	3.22	1.80	58
May 23	W. G. Swendsen	10	20	3.02	2.30	112
June 6	A. B. Larson	18	17	3.84	1.75	61
June 11	do	18	21	3.72	1.80	70
June 20	do	18	16	2.82	1.55	44
July 11	G. M. P. Dougall	18	0.2	2.35	1.30	22
July 17	do	18	0.8	2.30	1.30	23
July 20	G. S. Schow	18	8.7	2.21	1.10	10
August 6	do	18	0.5	2.15	1.25	20
August 16	do	17	0.6	1.84	1.24	17.7
August 30	A. B. Larson	17	0.7	1.48	1.21	14.4
September 10	G. S. Schow	17	8.7	1.65	1.20	14.5
September 28	A. B. Larson	17	8.3	1.60	1.10	13.0
October 12	W. D. Beers	16	7.8	1.01	1.20	12.6

**DAILY GAGE HEIGHT**  
In feet, of Hobble Creek, near Springville, Utah, for 1905.

Day.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
1.	-----	1.38	1.35	1.4	2.1	1.75	1.35	1.15	1.25	1.2	1.23	1.25
2.	-----	1.4	1.35	-----	2.05	1.8	1.35	1.2	1.25	1.2	1.25	1.22
3.	-----	1.4	1.35	1.4	1.95	-----	1.3	1.3	1.25	1.18	1.22	1.2
4.	-----	1.4	1.35	-----	1.85	1.8	1.35	1.35	1.2	1.15	1.25	1.2
5.	1.3	1.4	1.4	-----	1.8	1.85	1.3	-----	1.2	1.12	1.25	1.2
6.	-----	1.4	1.4	1.45	1.75	1.8	1.26	1.2	1.2	1.12	1.22	1.18
7.	-----	1.38	1.4	-----	1.7	1.8	1.24	1.25	1.25	1.1	1.23	1.2
8.	-----	1.38	1.4	1.5	1.75	2.0	1.25	1.2	1.3	1.1	1.25	1.2
9.	-----	1.38	1.4	1.5	1.75	1.92	1.25	-----	1.3	1.12	1.28	1.2
10.	-----	1.38	-----	1.8	1.75	1.8	1.25	1.22	1.25	1.13	1.3	1.1
11.	-----	-----	1.4	1.6	1.8	1.75	1.25	1.2	1.25	1.15	1.27	1.17
12.	-----	-----	-----	1.6	1.8	1.75	1.25	1.2	1.25	1.17	-----	1.15
13.	1.3	-----	1.4	1.6	1.9	1.75	1.25	1.15	1.25	1.2	1.2	1.15
14.	-----	-----	1.4	-----	1.05	1.85	1.25	1.2	1.25	1.18	1.22	1.18
15.	-----	1.38	1.4	1.6	2.05	1.8	1.3	1.25	1.25	1.17	1.23	1.2
16.	-----	1.35	1.4	1.7	2.1	1.7	1.3	1.2	1.25	1.2	1.22	1.25
17.	1.3	-----	1.4	1.6	2.3	1.6	1.3	1.2	1.25	1.2	1.23	1.22
18.	-----	1.35	1.4	-----	2.35	1.6	1.3	1.14	1.25	1.2	1.2	1.25
19.	1.3	-----	1.4	1.7	2.4	1.05	1.3	1.12	1.22	1.18	1.18	1.26
20.	-----	1.35	1.45	-----	2.35	1.6	1.25	1.2	1.2	1.17	1.2	1.23
21.	-----	1.35	1.4	1.02	2.4	1.53	1.3	1.15	1.2	1.2	1.2	1.22
22.	-----	1.35	1.4	1.05	2.45	1.5	1.3	1.12	1.2	1.25	1.25	-----
23.	1.35	1.35	1.4	1.7	2.4	1.55	1.25	1.16	1.2	1.2	1.22	-----
24.	-----	1.35	1.4	1.7	2.25	1.5	1.2	2.06	1.2	1.2	1.23	-----
25.	1.35	1.35	1.35	1.7	2.2	1.5	1.8	1.25	1.2	1.2	1.2	1.15
26.	-----	1.35	1.35	1.85	2.1	1.55	1.2	1.27	1.2	1.18	1.2	1.15
27.	1.33	1.35	1.45	1.95	2.0	1.5	1.2	1.25	1.2	1.18	1.25	1.25
28.	-----	1.35	1.4	2.0	1.0	1.45	1.15	1.25	1.2	1.17	1.25	1.22
29.	-----	-----	1.4	2.0	1.7	1.42	1.15	1.3	1.35	1.2	1.25	1.26
30.	1.33	-----	1.4	-----	1.7	1.4	1.15	1.2	1.2	1.2	1.25	1.23
31.	1.35	-----	1.35	-----	1.7	-----	1.2	1.2	-----	1.22	-----	-----

**STATION RATING TABLE**  
For Hobble Creek, near Springville, Utah, from January 1, to May 30, 1905.

Gage height.	Discharge.						
Feet.	Sec. feet.						
1.30	22.0	1.00	40.5	1.00	68	2.20	100
1.40	27.5	1.70	48.5	2.00	78	2.30	112
1.50	33.5	1.80	68	2.10	89	2.40	125

Note.—The above table is applicable only for open-channel conditions. It is based on four discharge measurements made during 1905. It is fairly well defined.

**STATION RATING TABLE**  
**For Hobble Creek, near Springville, Utah, from May 31 to December 31, 1905.**

Gage height. Feet.	Dis-charge. Sec.-feet.						
1.10	7.0	1.40	30.5	1.70	61	2.00	.99
1.20	14.5	1.50	40	1.80	73	2.10	113
1.30	22.0	1.60	50	1.90	86		

Note.—The above table is applicable only for open-channel conditions. It is based on nine discharge measurements made during 1905. It is well defined between gage heights 1.2 feet and 1.8 feet.

**ESTIMATED MONTHLY DISCHARGE**  
**Of Hobble Creek, near Springville, Utah, for 1905.**  
**(Drainage area, 75 square miles.)**

Month.	Discharge in Second-Feet.			Total in Acre Feet.	Run-Off.	
	Maximum.	Minimum.	Mean.		Sec.-ft. per Sq. mile.	Depth in Inches.
January	24	22	22.8	1,402	0.31	.30
February	28	24	25.6	1,422	0.34	.35
March	30	24	27.0	1,600	0.36	.42
April	78	28	45.2	2,000	.60	.67
May	132	48	81.0	4,080	1.08	1.25
June	90	30	59.4	3,534	.80	.80
July	20	11	18.0	1,144	.25	.20
August	107	8	18.3	1,125	.26	.20
September	20	14	17.1	1,018	.23	.20
October	10	7	12.5	769	.16	.18
November	22	13	16.0	1,000	.23	.20
December	18	7	14.0	898	.20	.23
The year	132	7	20.0	21,050	0.40	5.45

Note.—Open-channel conditions assumed throughout the year. Discharge interpolated for missing gage heights.

## SPANISH FORK BASIN.

### SPANISH FORK, NEAR SPANISH FORK, UTAH.

Spanish fork rises in the Wasatch Mountains and flows northwestward into Utah Lake. The area is generally barren, with but little timber or brush. The stream is confined to a steep, narrow canyon, with a few small openings in which are irrigated farms. The tributaries are all short and many of them are intermittent. The most important are Diamond Fork and Thistle Creek, which enter about 8 and 10 miles, respectively, above the gaging station, and which, like the main stream occupy steep narrow canyons. The normal flow comes largely from springs, scattered over the entire basin; the flood discharge is direct surface run-off from melting snow.

There are no storage reservoirs on the stream and but little of the flow is diverted above the station. The entire normal flow is, however, diverted at the mouth of the canyon, immediately below the station, and used for the irrigation of lands near Utah Lake.

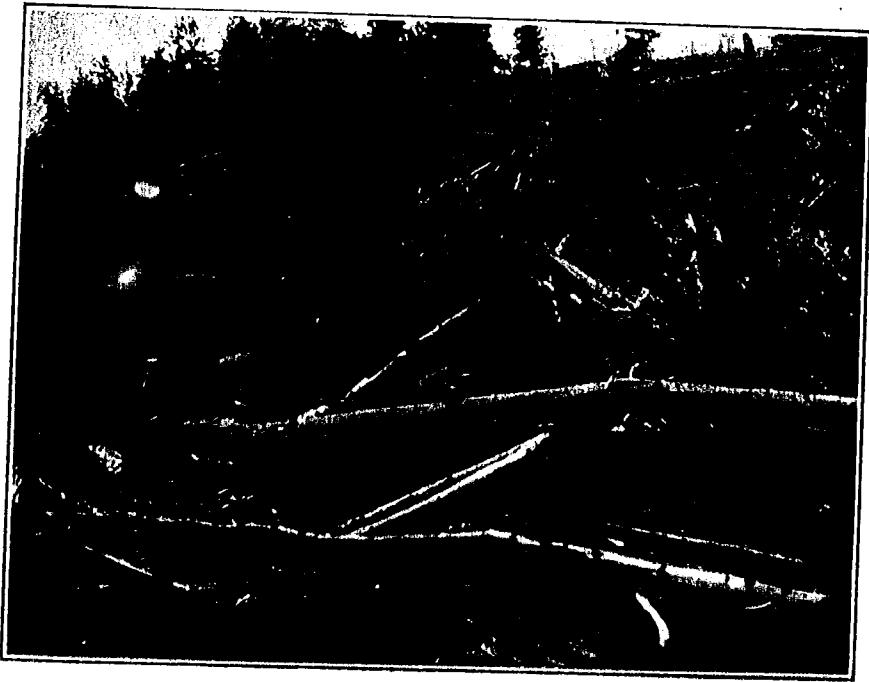
The station was established May 23, 1900, and re-established March 26, 1903. It is located 600 feet above the dam of the East Bench Irrigation Company, 5 miles southeast of Spanish Fork, and 300 feet southwest of the main line of the Rio Grande Western Railway.

Records at this station are of importance in connection with the Strawberry Valley storage reservoir project, under a plan to divert water from that basin into Spanish Fork near its head and carry it to distribution canals below.

The channel is straight for about 150 feet above and below the station. Both banks slope gradually, are covered with small brush, and are sufficiently high to prevent overflow. The bed is composed of loose gravel and sand, and is smooth but somewhat shifting, especially at flood stages. The velocity is high. There is a free flow, the current being uninterrupted by dams or other obstructions.

Discharge measurements are made by means of a cable and car. The cable is graduated with paint, beginning at the right cable post, which is the initial point for soundings.

The gage, which is read daily by Levi Thorp, a section foreman on the Rio Grande Western Railway, consisted origin-



VIEW NEAR HEAD OF DIAMOND CREEK FORK OF SPANISH FORK RIVER.

Showing timber waste in lumbering. This region is now included in the Uinta National Forest.

ally of a vertical staff located on the right bank of the stream. In April, 1905, it was replaced by a new 6 by 6 inch inclined gage having the same datum. The bench mark is on a limestone rock 29 feet S. 36° E. from the gage, marked with black paint "U. S. G. S."; elevation above gage datum, 7.16 feet; elevation above mean sea level, 4,785 feet.

Information in regard to this station is contained in the following publications of the United States Geological Survey (Ann.=Annual Report; WS=Water-Supply Paper):

Description: WS 100, p 45; 133, p 271.

Discharge: WS 100, p 145; 133, p 271.

Discharge, monthly: Ann 13, iii, p 97; WS 100, p 147; 133, p 273.

Discharge, yearly: Ann 13, iii, p 99; 20, iv, p 61.

Gage heights: WS 100, p 146; 133, p 272.

Rating table: WS 100, pp 146-147; 133, pp 272-273.

**ESTIMATED MONTHLY DISCHARGE  
Of Spanish Fork River, near Spanish Fork, Utah, for 1880.  
(Drainage area, 670 square miles.)**

Month.	Discharge in Second-Feet.			Total in Acre Feet.	Run-Off,	
	Maximum.	Minimum.	Mean.		Sec.-ft. per Sq. mile.	Depth in Inches.
September	70	45	50	2,075	0.07	.08
October	70	50	62	3,813	.09	.11
November	70	45	63	3,153	.08	.09
December	70	50	67	4,120	.10	.12

**ESTIMATED MONTHLY DISCHARGE  
Of Spanish Fork River, near Spanish Fork, Utah, for 1890.  
(Drainage area, 670 square miles.)**

Month.	Discharge in Second-Feet.			Total in Acre Feet.	Run-Off,	
	Maximum.	Minimum.	Mean.		Sec.-ft. per Sq. mile.	Depth in Inches.
January	230	50	68	4,182	0.10	.12
February	95	50	70	4,218	.11	.12
March	335	60	143	8,704	.21	.25
April	770	150	387	23,020	.58	.61
May	1,010	353	777	47,785	1.16	1.34
June	335	110	205	12,197	.31	.34
July	500	82	114	7,011	.17	.20
August	82	50	61	3,837	.10	.11
September	95	50	63	3,750	.09	.10
October	95	50	61	3,038	.10	.11
November	50	50	50	3,075	.07	.09
December	50	50	50	3,075	.07	.09
The year	1,010	50	172	120,783	0.25	3.50

**DISCHARGE MEASUREMENTS**  
Of Spanish Fork River, near Spanish Fork, Utah, in 1900.

Date.	Hydrographer.	Gage height.	Discharge.
		Feet.	Second-feet.
May 23-----	C. C. Babb & W. P. Hardesty	2.50	188
July 14-----	do	1.88	49

**DAILY GAGE HEIGHT**  
Of Spanish Fork River, near Spanish Fork, Utah, for 1900.

Day.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
1-----							1.90	1.90	1.90	1.95	2.00	1.95
2-----							1.90	1.85				1.90
3-----						2.35	2.00				2.00	2.00
4-----							2.00	1.85				1.95
5-----						2.35	1.90	1.90				1.95
6-----							2.25					1.90
7-----												1.95
8-----												1.95
9-----												
10-----						2.25		1.90				
11-----						2.20		1.95				
12-----						2.50				1.95		
13-----								1.95				
14-----								1.90				
15-----									1.95	1.95		
16-----						2.50				1.90	2.00	
17-----						2.15					2.10	
18-----						2.10					2.05	
19-----								1.90		1.90		
20-----						2.10			1.95	1.95	2.00	
21-----						2.50			1.95		2.05	
22-----							1.90				2.00	
23-----						2.50	1.95		1.95			
24-----						2.00			2.05			
25-----							1.95		2.00			
26-----							1.90				2.00	
27-----											1.95	
28-----											1.95	
29-----									2.00		1.90	
30-----						2.00	1.90		1.95	1.95	2.00	
31-----							1.90	1.90		1.95		

**ESTIMATED MONTHLY DISCHARGE**  
Of Spanish Fork River, near Spanish Fork, Utah, for 1900.  
(Drainage area, 670 square miles.)

Month.	Discharge in Second-Feet.			Total in Aero Feet	Sec.-ft. per Sq. mile.	Run-Off, Depth in Inches.
	Maximum.	Minimum.	Mean.			
June -----	188	75	132	7,835	0.20	0.22
July -----	75	54	60	3,443	.08	.00
August -----	54	45	53	3,259	.08	.00
September -----	80	54	61	3,030	.00	.10
October -----	75	54	63	3,874	.00	.10
November -----	80	54	74	4,403	.11	.12
December -----	80	38	58	3,660	.00	.10

**DAILY GAGE HEIGHT**  
Of Spanish Fork River, near Spanish Fork, Utah, for 1901.

Day.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
1	*2.25	1.80	2.20	2.10	2.60	2.50	2.05	2.00	2.00	2.00	2.05	---
2	*2.25	1.75	2.25	---	2.65	2.45	---	2.00	---	---	---	---
3	1.70	1.80	2.30	---	---	2.40	---	2.10	---	---	---	---
4	---	1.80	2.20	2.10	2.05	2.45	---	2.05	---	---	---	---
5	1.70	1.85	2.20	2.05	2.55	2.40	---	2.00	---	2.00	---	---
6	1.75	1.80	2.10	2.10	2.55	---	2.05	2.30	---	2.10	---	---
7	1.85	1.85	2.10	---	2.00	2.40	2.00	2.40	---	2.05	---	---
8	1.80	1.80	2.20	---	2.60	2.30	---	2.30	---	2.05	---	---
9	1.70	1.70	2.10	---	2.65	---	---	2.30	---	2.10	---	---
10	1.65	1.75	1.95	---	2.85	---	2.00	2.30	---	2.05	2.05	---
11	*1.90	1.65	2.10	2.10	2.95	---	2.05	2.10	---	---	2.10	---
12	1.80	1.75	2.10	2.15	3.00	---	2.05	2.05	---	---	2.05	---
13	1.75	1.85	2.00	2.18	3.15	---	2.00	2.05	---	2.05	---	---
14	1.75	1.80	2.05	2.20	3.20	---	---	2.00	---	2.00	2.05	---
15	1.80	1.80	2.10	2.20	3.15	---	---	1.95	---	2.00	---	---
16	1.80	1.85	2.10	2.15	3.30	2.30	---	2.15	---	---	---	---
17	1.85	2.01	2.15	2.10	3.30	2.25	2.00	2.00	---	---	---	---
18	1.75	2.45	2.10	2.15	3.75	---	1.95	2.00	---	---	---	---
19	1.80	2.35	2.15	2.20	3.20	2.25	---	2.20	---	---	---	---
20	1.70	3.23	2.00	2.75	3.20	2.20	---	2.20	---	---	---	---
21	1.80	2.80	2.10	2.10	3.15	---	---	2.15	---	---	---	---
22	1.80	2.75	---	2.40	3.05	2.20	1.05	2.00	---	---	---	---
23	1.85	2.23	---	2.35	2.90	2.10	2.00	2.10	2.00	---	2.00	---
24	1.80	2.25	2.10	2.43	2.85	2.05	---	2.10	2.05	---	2.05	---
25	1.80	2.15	2.00	2.55	2.70	2.05	2.00	2.10	2.00	---	---	---
26	1.85	2.25	2.10	2.60	2.65	2.10	2.05	2.05	---	2.00	2.05	---
27	1.70	2.15	2.00	2.50	2.65	---	2.05	---	---	2.10	2.00	---
28	1.80	2.30	2.10	2.05	2.60	---	2.00	2.05	---	2.20	---	---
29	---	---	2.10	2.45	2.50	2.10	2.00	2.25	---	2.10	2.00	---
30	---	---	2.00	2.55	2.45	2.05	2.00	2.05	2.00	2.05	2.10	---
31	1.80	---	2.00	---	2.50	---	2.05	2.00	---	2.05	---	---

\*Ice.

**ESTIMATED MONTHLY DISCHARGE**  
Of Spanish Fork River, near Spanish Fork, Utah, for 1901.  
(Drainage area, .070 square miles.)

Month.	Discharge in Second-Feet.			Total in Acre Feet.	Run-Off.	
	Maximum.	Minimum.	Mean.		Sec. ft. per Sq. mile.	Depth in Inches.
January	200	15	41	2,621	0.00	0.07
February	372	15	91	5,064	.14	.16
March	141	75	97	5,001	.14	.10
April	224	80	131	7,705	.20	.22
May	385	170	271	10,003	.40	.40
June	188	80	133	7,914	.20	.22
July	86	61	77	4,735	.10	.12
August	161	61	99	6,087	.15	.17
September	80	75	75	4,403	.10	.11
October	110	75	82	5,012	.12	.14
November	97	75	82	4,870	.12	.13
December	---	---	Missing.	---	---	---
The period	395	15	107	71,117	0.10	1.03

The observations at this station during 1903 have been made under the direction of G. L. Swendsen, district hydrographer.

DISCHARGE MEASUREMENTS  
Of Spanish Fork River, near Spanish Fork, Utah, for 1903.

Date.	Hydrographer.	Gage height.	Discharge.
		Feet.	Second-feet.
March 26	C. Tanner	1.61	124
April 27	do	1.88	172
May 28	do	2.42	268
June 20	C. Callister	1.88	145
July 20	C. Tanner	1.50	72
September 22	do	1.41	53
October 26	do	1.39	51
December 15	do	1.38	53

MEAN DAILY GAGE HEIGHT,  
Of Spanish Fork River, near Spanish Fork, Utah, for 1903.

Day.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
1		1.72	2.84	1.08	1.40	1.30	1.48	1.30	1.40
2		1.70	2.08	1.00	1.46	1.30	1.50	1.30	1.40
3		1.80	3.05	1.04	1.44	1.30	1.64	1.20	1.28
4		1.92	2.04	1.04	1.44	1.30	1.44	1.24	1.30
5		1.02	2.00	1.08	1.44	1.38	1.44	1.40	1.32
6	1.40	1.07	2.70	1.00	1.42	1.38	1.40	1.40	1.28
7	1.43	1.06	2.70	1.00	1.42	1.38	1.41	1.42	1.26
8	1.44	2.00	2.00	1.04	1.42	1.30	1.44	1.18	1.24
9	1.50	2.10	2.54	1.00	1.30	1.30	1.42	1.44	1.20
10	1.51	2.10	2.52	1.00	1.34	1.30	1.42	1.42	1.28
11	1.54	2.10	2.44	1.58	1.40	1.30	1.42	1.38	1.28
12	1.50	2.10	2.42	1.54	1.34	1.38	1.42	1.30	1.34
13	1.40	2.20	2.48	1.50	1.34	1.42	1.40	1.54	1.38
14	1.40	2.32	2.20	1.48	1.34	1.42	1.40	1.48	1.42
15	1.60	2.30	2.20	1.48	1.34	1.42	1.40	1.46	1.40
16	1.48	2.38	2.14	1.48	1.34	1.42	1.40	1.40	1.40
17	1.50	2.50	2.10	1.58	1.32	1.42	1.38	1.30	1.40
18	1.48	2.34	2.00	1.50	1.32	1.40	1.38	1.30	1.38
19	1.50	2.20	1.90	1.50	1.32	1.42	1.38	1.32	1.36
20	1.50	2.14	1.84	1.48	1.30	1.40	1.38	1.42	1.34
21	1.50	2.20	1.84	1.48	1.44	1.40	1.38	1.42	1.38
22	1.50	2.22	1.80	1.48	1.30	1.40	1.38	1.44	1.38
23	1.00	2.12	1.80	1.50	1.40	1.38	1.38	1.44	1.38
24	1.72	2.30	1.78	1.54	1.38	1.30	1.38	1.44	1.32
25	1.00	2.24	1.78	1.48	1.34	1.30	1.38	1.44	1.38
26	2.00	2.28	1.74	1.68	1.34	1.30	1.38	1.41	1.58
27	1.08	2.30	1.72	1.60	1.34	1.30	1.40	1.30	1.62
28	1.00	2.48	1.72	1.40	1.34	1.38	1.38	1.24	1.54
29	1.78	2.50	1.70	1.48	1.38	1.58	1.38	1.32	1.54
30	1.00	2.50	1.70	1.40	1.38	1.40	1.38	1.34	1.54
31		2.70		1.40	1.30		1.32		1.52

RATING TABLE  
For Spanish Fork River, near Spanish Fork, Utah, from April 6 to June 3, 1903.

Gage height.	Discharge.						
Feet.	Sec.-feet.	Feet.	Sec.-feet.	Feet.	Sec.-feet.	Feet.	Sec.-feet.
1.4	89	1.9	175	2.4	265	2.8	338
1.5	105	2.0	193	2.5	283	2.9	358
1.6	121	2.1	211	2.6	301	3.0	378
1.7	139	2.2	229	2.7	319	3.1	398
1.8	157	2.3	247				

RATING TABLE  
For Spanish Fork River, near Spanish Fork, Utah, from June 4 to December 31, 1903.

Gage height.	Discharge.						
Feet.	Sec.-feet.	Feet.	Sec.-feet.	Feet.	Sec.-feet.	Feet.	Sec.-feet.
1.2	23	1.7	107	2.2	207	2.7	314
1.3	30	1.8	127	2.3	227	2.8	336
1.4	53	1.9	147	2.4	248	2.9	358
1.5	71	2.0	167	2.5	270	3.0	380
1.6	89	2.1	187	2.6	292		

ESTIMATED MONTHLY DISCHARGE  
Of Spanish Fork River, near Spanish Fork, Utah, for 1903.  
(Drainage area, 670 square miles.)

Month.	Discharge in Second-Feet.			Total in Acre Feet.	Run-Off.	
	Maximum.	Minimum.	Mean.		Sec.-ft. per Sq. mile.	Depth in Inches.
April 30	103	89	122	6,010	0.18	.17
May	316	113	227	13,058	.34	.30
June	388	107	218	12,072	.33	.37
July	103	53	79	4,858	.12	.14
August	61	39	48	2,051	.07	.08
September	85	46	52	3,001	.07	.08
October	90	39	55	3,382	.08	.09
November	78	28	50	2,975	.07	.08
December	85	28	50	3,074	.07	.08
The period	388	28	100	53,313	0.15	1.48

The observations at this station during 1904 have been made under the direction of G. L. Swendsen, district engineer.

**DISCHARGE MEASUREMENTS**  
Of Spanish Fork River, near Spanish Fork, Utah, in 1904.

Date.	Hydrographer.	Area of section.	Mean velocity.	Gage height.	Discharge.
		Square ft.	Ft. per sec.	Feet.	Second-ft.
February 9	C. Tanner	28	2.40	1.50	66
March 14	do	28	2.62	1.54	75
March 26	W. P. Hardesty	30	2.61	1.58	79
April 18	C. Tanner	54	3.72	2.30	201
June 16	H. S. Kleinschmidt	42	3.31	1.88	142
July 20	do	32	3.23	1.50	102
September 15	C. Tanner	27	2.43	1.40	66
October 30	W. Swendsen	30	2.33	1.40	69
December 2	do	27	2.41	1.40	64
December 22	do	26	2.50	1.47	65

MEAN DAILY GAGE HEIGHT,  
In feet, of Spanish Fork, near Spanish Fork, Utah, for 1904.

Day.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
1	1.50	1.08	1.58	1.82	2.48	2.46	1.76	1.54	1.44	1.40	1.42	1.42
2	1.61	1.70	1.58	1.80	2.48	2.36	1.70	1.50	1.44	1.40	1.42	1.42
3	1.50	1.70	1.50	1.80	2.00	2.52	1.68	1.48	1.42	1.40	1.42	1.42
4	1.40	1.50	1.58	2.30	2.70	2.44	1.70	1.44	1.42	1.40	1.42	1.22
5	1.46	1.48	1.50	1.92	2.78	2.34	1.60	1.44	1.42	1.40	1.42	1.48
6	1.46	1.50	1.54	1.82	3.01	2.20	1.61	1.42	1.40	1.40	1.42	1.48
7	1.58	1.48	1.50	1.78	2.06	2.30	1.72	1.46	1.40	1.40	1.42	1.48
8	1.70	1.58	1.60	1.80	2.04	2.30	1.68	1.40	1.40	1.40	1.42	1.20
9	1.80	1.48	1.60	1.80	2.94	2.20	1.61	1.42	1.40	1.40	1.42	1.44
10	1.80	1.50	1.60	1.90	3.00	2.08	1.60	1.42	1.40	1.42	1.42	1.32
11	1.60	1.50	1.58	2.20	3.14	2.01	1.60	1.44	1.40	1.38	1.28	1.20
12	1.54	1.50	1.54	2.12	3.22	2.02	1.60	1.54	1.40	1.42	1.26	1.24
13	1.52	1.50	1.40	2.24	3.28	2.00	1.60	1.40	1.38	1.42	1.26	1.32
14	1.58	1.42	1.54	2.24	3.28	1.96	1.58	1.58	1.38	1.42	1.24	1.30
15	1.42	1.50	1.54	2.42	3.28	1.94	1.52	1.48	1.40	1.42	1.38	1.36
16	1.42	1.52	1.50	2.26	3.30	1.92	1.54	1.48	1.42	1.42	1.38	1.24
17	1.42	1.51	1.54	2.26	3.34	1.90	1.54	1.52	1.46	1.42	1.32	1.50
18	1.48	1.50	1.54	2.32	3.32	1.90	1.52	1.48	1.42	1.41	1.38	1.32
19	1.61	1.50	1.58	2.36	3.26	1.88	1.52	1.44	1.40	1.40	1.41	1.32
20	1.44	1.48	1.50	2.44	3.14	1.84	1.52	1.44	1.38	1.40	1.32	1.30
21	1.08	1.52	1.50	2.40	2.08	1.80	1.50	1.44	1.40	1.40	1.34	1.30
22	1.50	1.50	1.40	2.24	2.06	1.76	1.50	1.44	1.40	1.40	1.34	1.38
23	1.40	1.88	1.00	2.18	2.00	1.74	1.50	1.44	1.40	1.40	1.32	1.38
24	1.40	1.78	1.00	2.10	2.00	1.72	1.08	1.40	1.40	1.40	1.30	1.40
25	1.40	1.74	1.02	2.12	3.34	1.70	1.58	1.40	1.40	1.40	1.30	1.40
26	1.50	1.70	1.40	2.10	3.30	1.70	1.52	1.44	1.40	1.42	1.32	1.32
27	1.80	1.00	1.58	2.34	3.04	1.70	1.52	1.40	1.42	1.42	1.34	1.24
28	1.04	1.72	1.00	2.40	2.00	1.70	1.00	1.50	1.42	1.42	1.34	1.24
29	1.08	1.51	2.50	2.42	2.70	1.70	1.50	1.48	1.42	1.42	1.30	1.40
30	1.48	—	2.12	2.40	2.00	1.72	1.58	1.54	1.42	1.42	1.20	1.20
31	1.08	—	1.02	—	2.54	—	1.58	1.40	—	1.42	—	1.30

\*Interpolated.

## RATING TABLE

For Spanish Fork, near Spanish Fork, Utah, from January 1 to May 16, and from December 10 to December 31, 1904.\*

Gage height.	Discharge.	Gage height.	Discharge.	Gage height.	Discharge.	Gage height.	Discharge.
Feet.	Sec.-feet.	Feet.	Sec.-feet.	Feet.	Sec.-feet.	Feet.	Sec.-feet.
1.20	36	1.60	82	2.00	146	2.80	300
1.25	40	1.65	89	2.10	164	2.90	320
1.30	45	1.70	97	2.20	183	3.00	340
1.35	50	1.75	105	2.30	202	3.10	361
1.40	56	1.80	113	2.40	221	3.20	382
1.45	62	1.85	121	2.50	240	3.30	403
1.50	68	1.90	129	2.60	260	3.40	424
1.55	75	1.95	137	2.70	280		

\*Two rating tables necessary for 1904 on account of changes in channel during May and November.

The above table is applicable only for open-channel conditions. It is based upon 4 discharge measurements made during spring and 1 measurement made in December, 1904. It is fairly well defined between gage heights 1.40 and 2.30 feet. The table has been extended beyond these limits.

## RATING TABLE

For Spanish Fork, near Spanish Fork, Utah, from May 17 to December 9, 1904.\*

Gage height.	Discharge.	Gage height.	Discharge.	Gage height.	Discharge.	Gage height.	Discharge.
Feet.	Sec.-feet.	Feet.	Sec.-feet.	Feet.	Sec.-feet.	Feet.	Sec.-feet.
1.20	45	1.60	95	2.00	161	2.80	308
1.25	50	1.65	103	2.10	179	2.90	327
1.30	55	1.70	111	2.20	197	3.00	340
1.35	61	1.75	119	2.30	215	3.10	355
1.40	67	1.80	127	2.40	233	3.20	371
1.45	73	1.85	135	2.50	251	3.30	384
1.50	80	1.90	141	2.60	270	3.40	404
1.55	87	1.95	152	2.70	289		

\*Two rating tables necessary for 1904 on account of changes in channel during May and November.

The above table is applicable only for open-channel conditions. It is based upon 4 discharge measurements made during summer and fall of 1904. It is fairly well defined between gage heights 1.40 and 1.90 feet. The table has been extended beyond these limits.

**ESTIMATED MONTHLY DISCHARGE**  
**Of Spanish Fork, near Spanish Fork, Utah, for 1904.**  
**(Drainage area, 670 square miles.)**

Month.	Discharge in Second-Feet.			Total in Acre Feet.	Run-Off.	
	Maximum.	Minimum.	Mean.		Sec.-ft. per Sq. mile.	Depth in Inches.
January	113	58	77.6	4,771	.016	.034
February	126	58	79.1	4,550	.118	.127
March	240	63	85.8	5,276	.128	.148
April	229	110	174	10,350	.260	.290
May	415	236	343	21,000	.512	.590
June	255	111	162	9,640	.242	.270
July	121	80	94.6	5,817	.141	.163
August	92	67	75.8	4,661	.113	.130
September	75	65	68.0	4,016	.101	.113
October	69	65	67.8	4,169	.101	.116
November	72	49	61.5	3,000	.092	.103
December	77	40	54.3	3,339	.081	.093
The year	415	40	112	81,370	.167	.228

**DISCHARGE MEASUREMENTS**  
**Of Spanish Fork, near Spanish Fork, Utah, in 1905.**

Date.	Hydrographer.	Width.	Area of section.	Mean velocity.	Gage height.	Dis-
						Second-
January 27	H. S. Kleinsehmldt.	37	30	2.09	1.42	70
February 15	do	35	28	2.00	1.38	74
March 10	do	37	20	2.51	1.40	72
April 10	W. G. Swendsen	30	30	3.17	1.70	111
May 11	W. P. Hardesty	30	44	3.50	1.00	151
May 15	W. G. Swendsen	37	40	4.04	2.00	200
May 22	do	40	85	4.34	2.82	300
May 22	do	40	85	4.42	2.82	370
May 22	do	40	85	4.00	2.82	300
June 3	A. B. Larson	38	68	4.50	2.45	314
June 9	do	37	40	3.00	2.04	105
June 20	do	35	30	2.85	1.60	80
July 31	Beers and Schow	34	25	2.10	1.40	54
August 9	G. S. Schow	40	21	1.00	1.32	43
August 30	A. B. Larson	31	20	2.00	1.41	62
September 7	G. S. Schow	36	25	2.50	1.47	61
September 10	do	34	20	2.30	1.38	49
September 28	A. B. Larson	34	22	2.35	1.41	52
October 12	W. D. Beers	33	24	2.40	1.48	50

**DAILY GAGE HEIGHT**  
Of Spanish Fork, near Spanish Fork, Utah, for 1905.

Day.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
1-----	1.4	1.46	1.6	1.5	2.06	2.56	1.52	1.36	1.36	1.64	1.48	1.46
2-----	1.26	1.56	1.56	1.48	2.04	2.52	1.5	1.34	1.36	1.56	1.48	1.44
3-----	1.5	1.5	1.62	1.48	2.02	2.48	1.5	1.4	1.36	1.44	1.48	1.4
4-----	1.32	1.5	1.54	1.46	1.96	2.38	1.46	1.36	1.61	1.44	1.48	1.44
5-----	1.4	1.5	1.5	1.48	1.92	2.26	1.44	1.36	1.42	1.42	1.48	1.5
6-----	1.56	4.48	1.5	1.48	1.82	2.24	1.46	1.36	1.4	1.44	1.48	1.4
7-----	1.4	1.46	1.48	1.5	1.82	2.14	1.46	1.3	1.44	1.45	1.48	1.44
8-----	1.4	1.46	1.48	1.52	1.84	2.1	1.46	1.3	1.42	1.42	1.48	1.44
9-----	1.4	1.4	1.46	1.54	1.98	2.02	1.4	1.3	1.4	1.42	1.48	1.44
10-----	1.42	1.42	1.46	1.76	1.96	2.02	1.42	1.36	1.4	1.48	1.48	1.4
11-----	1.44	1.44	1.46	1.7	1.9	2.0	1.42	1.5	1.4	1.48	1.48	1.3
12-----	1.4	1.26	1.44	1.7	1.84	1.96	1.4	1.4	1.4	1.48	1.48	1.24
13-----	1.38	1.6	1.46	1.66	2.0	1.88	1.38	1.38	1.4	1.46	1.4	1.25
14-----	1.42	1.4	1.48	1.61	2.0	1.82	1.4	1.38	1.4	1.46	1.44	1.4
15-----	1.42	1.4	1.48	1.62	2.0	1.76	1.4	1.36	1.4	1.48	1.44	1.3
16-----	1.44	1.34	1.44	1.7	2.04	1.76	1.4	1.34	1.4	1.48	1.44	1.25
17-----	1.42	1.44	1.46	1.7	2.22	1.71	1.4	1.34	1.31	1.48	1.46	1.3
18-----	1.42	1.42	1.46	1.66	2.41	1.76	1.38	1.31	1.34	1.46	1.46	1.3
19-----	1.34	1.4	1.5	1.74	2.54	1.78	1.38	1.32	1.38	1.44	1.46	1.3
20-----	1.44	1.44	1.6	1.72	2.04	1.78	1.30	1.32	1.38	1.44	1.44	1.3
21-----	1.44	1.48	1.6	1.72	2.74	1.78	1.34	1.32	1.30	1.44	1.44	1.4
22-----	1.44	1.48	1.52	1.7	2.84	1.74	1.36	1.3	1.36	1.48	1.5	1.35
23-----	1.46	1.46	1.5	1.74	2.94	1.72	1.31	1.3	1.36	1.48	1.5	1.4
24-----	1.44	1.48	1.5	1.76	2.84	1.66	1.34	1.32	1.34	1.48	1.5	1.4
25-----	1.46	1.48	1.5	1.78	2.74	1.6	1.34	1.66	1.44	1.48	1.46	1.4
26-----	1.42	1.48	1.48	1.86	2.8	1.6	1.31	1.42	1.48	1.48	1.46	1.4
27-----	1.36	1.40	1.5	1.92	2.74	1.58	1.34	1.46	1.5	1.48	1.5	1.4
28-----	1.38	1.5	1.5	1.98	2.78	1.58	1.34	1.48	1.40	1.48	1.46	1.5
29-----	1.44	1.52	1.97	2.7	1.56	1.34	1.4	2.22	1.48	1.46	1.46	1.7
30-----	1.46	1.54	2.0	2.6	1.54	1.34	1.38	1.61	1.48	1.46	1.46	1.46
31-----	1.44	1.46	1.5	2.56	1.34	1.34	1.34	1.5	1.5	1.46	1.46	1.46

Note.—January 3 and 6 and February 13, backwater caused by ice; open-channel conditions during the remainder of the winter months. Gage February 6 probably in error.

**DAILY DISCHARGE.**  
In second-feet, of Spanish Fork, near Spanish Fork, Utah, for 1905.

Day.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
1.....	57	86	112	79	192	336	56	48	45	82	60	61
2.....	39	106	104	76	187	329	54	46	45	76	60	59
3.....	43	95	115	75	182	322	54	54	45	54	61	53
4.....	47	95	100	71	168	292	48	48	89	51	61	59
5.....	57	95	92	74	158	258	47	48	53	50	61	60
6.....	59	91	92	74	136	252	49	48	50	53	62	53
7.....	60	87	88	77	136	224	50	42	59	50	62	59
8.....	61	87	88	81	140	212	51	42	53	50	62	59
9.....	62	75	84	83	172	190	43	42	52	50	62	59
10.....	66	79	83	127	168	188	46	46	52	60	62	53
11.....	70	83	82	114	154	180	47	68	52	60	63	41
12.....	64	52	78	113	145	168	44	52	52	59	63	35
13.....	60	64	81	100	189	147	43	49	52	55	50	36
14.....	60	76	85	100	195	132	46	49	52	55	56	54
15.....	69	77	84	96	200	118	46	46	52	59	56	42
16.....	74	65	76	112	203	116	46	44	52	59	56	36
17.....	71	74	80	112	242	110	47	44	44	59	59	42
18.....	72	71	79	102	286	112	44	44	44	56	50	42
19.....	58	76	86	110	315	115	45	41	48	54	50	42
20.....	77	83	105	114	335	113	43	41	48	54	57	42
21.....	78	91	105	114	355	111	42	41	45	54	57	55
22.....	70	91	89	111	375	102	43	38	45	59	67	48
23.....	81	85	84	116	410	96	42	38	45	59	67	55
24.....	80	80	84	122	384	81	42	41	43	50	67	55
25.....	83	89	83	127	360	68	43	95	55	59	60	56
26.....	76	80	79	144	382	67	43	53	62	60	60	56
27.....	67	85	82	168	308	61	44	58	66	60	68	56
28.....	70	91	82	172	383	65	44	62	58	60	61	74
29.....	82	-----	85	170	361	62	45	50	228	60	61	114
30.....	85	-----	88	178	310	58	45	47	62	60	61	65
31.....	82	-----	72	-----	331	-----	46	43	-----	65	-----	65

Note.—Daily discharge obtained by indirect method for shifting channels. Discharge January 3 and 6 and February 13 reduced on account of backwater from ice. Discharge February 6 interpolated between February 5 and 7 on assumption that gage height of February 6 was in error.

**ESTIMATED MONTHLY DISCHARGE**  
Of Spanish Fork River, near Spanish Fork, Utah, for 1905.  
(Drainage area, 670 square miles.)

Month.	Discharge in Second-Feet.			Total In Aero Feet.	Run-Off,	
	Maximum.	Minimum.	Mean.		Sec.-ft. per Sq. mile.	Depth in Inches.
January .....	85	30	67.7	4,103	0.101	0.110
February .....	100	52	83.2	4,021	.324	.120
March .....	116	72	88	5,411	.131	.151
April .....	178	71	111	0,003	.100	.185
May .....	410	130	257	15,800	.384	.443
June .....	330	58	150	0,283	.233	.200
July .....	50	42	46.1	2,835	.009	.080
August .....	95	38	48.0	2,088	.073	.084
September .....	228	43	60.3	3,620	.080	.090
October .....	92	50	58.5	3,597	.087	.100
November .....	68	50	60.7	3,612	.091	.102
December .....	114	35	51.7	3,303	.082	.091
The year .....	410	35	90.0	65,810	.130	1.84

**DISCHARGE MEASUREMENTS**  
Of Spanish Fork River, at Mouth of Canyon, near Spanish Fork, Utah, in 1906.

Date.	Hydrographer.	Width.	Area of section.	Mean velocity.	Gage height.	Discharge.
		Feet.	Square feet.	Ft. per second.	Feet.	Second-feet.
January 20	W. G. Swendsen	34.5	23.4	3.24	1.49	75.8
February 4	do	35.5	27.3	2.55	1.48	60.6
March 3	do	34.5	25.5	2.25	1.40	57.5
March 22	do	36.1	32.5	3.05	1.55	100
April 28	H. S. Kleinschmidt	39.5	73.4	4.67	2.40	343
May 10	do	48.0	122	0.63	3.74	801
May 19	T. Grieve	40.0	125	5.54	3.74	695
June 2	do	40.0	94.5	5.00	2.85	472
June 12	do	39.0	80.0	4.23	2.50	338
July 3	do	38.0	45.5	3.88	1.70	170.6
August 7	do	37.0	30.4	3.15	1.40	95.7
October 17	do	37.0	27.5	3.26	1.25	80.7

**STATION RATING TABLE**  
For Spanish Fork River, at Mouth of Canyon, near Spanish Fork, Utah, from  
Jan. 1, 1906, to April 1, 1906.

Gage height.	Discharge.						
Feet.	Sec.-feet.	Feet.	Sec.-feet.	Feet.	Sec.-feet.	Feet.	Sec.-feet.
1.30	60	1.80	155	2.30	325	2.70	455
1.40	65	1.90	100	2.40	300	2.80	400
1.50	85	2.00	225	2.50	405	2.90	520
1.60	105	2.10	200	2.60	425	3.00	555
1.70	130	2.20	295				

**STATION RATING TABLE**  
For Spanish Fork River, at Mouth of Canyon, near Spanish Fork, Utah, from  
April 1, 1906, to Dec. 31, 1906.

Gage height.	Discharge.	Gage height.	Discharge.	Gage height.	Discharge.	Gage height.	Discharge.
Feet.	Sec.-feet.	Feet.	Sec.-feet.	Feet.	Sec.-feet.	Feet.	Sec.-feet.
1.10	90	2.10	230	3.10	500	4.00	800
1.20	95	2.20	205	3.20	595	4.10	805
1.30	100	2.30	205	3.30	625	4.20	925
1.40	110	2.40	325	3.40	600	4.30	900
1.50	120	2.50	300	3.50	695	4.40	995
1.60	130	2.60	395	3.60	725	4.50	1,025
1.70	145	2.70	425	3.70	760	4.60	1,000
1.80	165	2.80	400	3.80	795	4.70	1,095
1.90	185	2.90	495	3.90	825		
2.00	205	3.00	525				

**DAILY GAGE HEIGHT**  
**Of Spanish Fork River, at Mouth of Canyon, for 1906.**

Day.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
1-----	1.45	1.45	1.55	2.00	2.50	2.80	1.75	1.45	1.35	1.25	1.25	1.25
2-----	1.55	1.40	1.50	2.00	2.45	2.80	1.70	1.40	1.50	1.25	1.25	1.30
3-----	1.40	1.40	1.40	1.80	2.00	2.75	1.70	1.40	1.45	1.25	1.25	1.30
4-----	1.40	1.45	1.50	1.60	3.05	2.80	1.70	1.40	1.35	1.25	1.30	1.40
5-----	1.40	1.50	1.45	1.80	3.50	2.85	1.70	1.35	1.35	1.25	1.30	1.35
6-----	1.50	1.50	1.40	1.80	3.60	2.85	1.65	1.35	1.35	1.25	1.30	1.30
7-----	1.45	1.50	1.40	2.20	3.55	2.65	1.65	1.35	1.35	1.25	1.30	1.25
8-----	1.50	1.45	1.45	2.20	2.90	2.00	1.60	1.30	1.35	1.25	1.30	1.25
9-----	1.50	1.45	1.50	2.20	3.00	2.50	1.60	1.30	1.35	1.25	1.30	1.25
10-----	1.40	1.45	1.60	2.40	4.40	2.55	1.60	1.30	1.35	1.25	1.30	1.25
11-----	1.35	1.50	2.20	2.50	4.40	2.50	1.55	1.30	1.30	1.25	1.30	1.25
12-----	1.40	1.50	2.25	2.40	4.50	2.50	1.55	1.30	1.30	1.25	1.25	1.25
13-----	1.40	1.50	2.25	2.20	4.50	2.45	1.50	1.30	1.30	1.25	1.25	1.40
14-----	1.45	1.50	1.60	2.25	3.90	2.45	1.50	1.40	1.35	1.25	1.25	1.25
15-----	1.40	1.55	1.50	2.40	3.90	2.40	1.60	1.35	1.35	1.25	1.25	1.20
16-----	1.40	1.55	1.45	2.45	3.85	2.35	1.55	1.35	1.45	1.25	1.25	---
17-----	1.40	1.50	1.50	2.80	3.80	2.20	1.50	1.35	1.35	1.25	1.25	---
18-----	1.40	1.55	1.50	3.20	3.80	2.12	1.60	1.35	1.35	1.25	1.20	---
19-----	1.55	1.60	1.30	3.10	3.80	2.05	1.55	1.40	1.35	1.25	1.15	---
20-----	1.55	1.45	1.45	3.00	3.05	2.00	1.50	1.65	1.30	1.25	1.20	---
21-----	1.40	1.55	1.50	3.00	4.00	1.90	1.50	1.45	1.30	1.25	1.20	---
22-----	1.40	1.50	1.60	3.10	3.90	1.85	1.50	1.50	1.30	1.20	1.20	---
23-----	1.40	1.50	2.00	3.30	3.65	1.85	1.50	1.40	1.30	1.20	1.20	---
24-----	1.45	1.45	2.35	3.25	3.60	1.85	1.05	1.35	1.30	1.20	1.20	---
25-----	1.50	1.50	2.80	2.90	3.35	1.80	1.50	1.35	1.30	1.25	1.25	---
26-----	1.45	1.45	2.30	2.75	3.20	1.80	1.45	1.35	1.30	1.25	1.25	---
27-----	1.50	1.50	2.00	2.55	3.25	1.80	1.45	1.35	1.30	1.25	1.25	---
28-----	1.45	1.50	1.00	2.50	3.30	1.80	1.45	1.35	1.30	1.25	1.25	---
29-----	1.45	1.45	1.80	2.55	3.20	1.80	1.45	1.35	1.30	1.25	1.25	---
30-----	1.50	1.50	1.90	2.50	3.10	1.80	1.45	1.30	1.25	1.25	1.25	---
31-----	1.45	1.45	2.00	.....	2.85	.....	1.40	1.40	1.25	1.25	1.25	---

**ESTIMATED MONTHLY DISCHARGE**  
**Of Spanish Fork River, at Mouth of Canyon, near Spanish Fork, Utah, for 1906.**  
 (Drainage area, 070 square miles.)

Month.	Discharge in Second-Feet.			Total in Acre-Feet.	Run-Off.	
	Maximum.	Minimum.	Mean.		Sec.-ft. per Sq. mile.	Depth in Inches.
January -----	.05	.55	.75	4,012	0.11	0.13
February -----	105	.05	.85	4,721	0.12	0.13
March -----	310	.05	150	9,602	0.23	0.27
April -----	625	130	301	21,000	0.54	0.56
May -----	1,025	310	400	21,505	0.60	0.60
June -----	475	105	200	17,700	0.44	0.46
July -----	155	115	130	7,003	0.20	0.23
August -----	137	100	107	6,580	0.10	0.18
September -----	120	100	103	6,248	0.10	0.17
October -----	.07	.05	.07	5,003	0.14	0.10
November -----	100	.02	.07	5,772	0.14	0.15
December -----	.....	.....	.....	5,003	0.14	0.10
The year -----	1,025	65	108	121,403	0.25	3.20

**MONTHLY DISCHARGE**  
In thousands of acre-feet, of Spanish Fork River, at Mouth of Canyon.  
(Drainage area, 670 square miles.)

Note.—~~EDITION~~ no record.

### Spanish Fork, near Lake Shore, Utah.

This station was established December 10, 1903, at the highway bridge on the road between Spanish Fork and Lake Shore, about 3 miles west of Spanish Fork. In May, 1904, it was re-established at a point about 800 feet above the bridge.

As the entire normal summer flow is diverted at a point above, the station is maintained only during the spring and winter, the object being the determination of the amount of water discharged by Spanish Fork into Utah Lake.

The channel is straight for about 75 feet above and is slightly curved for 100 feet below the station. Both banks are barren and sufficiently high to prevent overflow. The bed at this point is composed of fine gravel and sand, smooth but continually shifting. The velocity ranges from 2 to 4 feet per second, and the depth from 1 foot to 3 feet. Information in regard to winter conditions is incomplete.

Discharge measurements are made from a cable and car. The cable is marked at 4-foot intervals, beginning at the right cable post, which is the initial point for soundings.

Daily gage readings are made by J. W. Bowen, a farmer. The original gage was a vertical staff driven into the bed of the stream about 10 feet below the bridge. This was abandoned at the beginning of 1905, and readings have since been taken from the new vertical gage located on the right bank near the cable. It consists of a 2 by 4 inch fir post, driven into the bed of the stream and supported at the top by a horizontal piece buried in the bank. The datum is the same as that of the old gage, but simultaneous readings will not agree, as there is considerable fall to the stream between the two gages. The gage is referred to bench marks as follows: (1) A 30-penny nail driven into a log on the west abutment of the bridge, near the northwest corner, 10.5 feet S.  $18^{\circ} 30'$  W., from the old gage; elevation above gage datum, 11.68 feet. (2) A 20-penny nail driven

into the north side of a cedar fence post, 91 feet, S.  $85^{\circ} 30'$  E., from the gage; elevation above gage datum, 21.95 feet. (3) A United States Geological Survey standard metallic post set 197 feet S.  $21^{\circ} 30'$  E., from the gage; elevation above gage datum, 21.95 feet. (3) A United States Geological Survey standard metallic post set 197 feet S.  $21^{\circ} 45'$  E. from the old gage; elevation above gage datum, 21.76 feet.

Information in regard to this station is contained in the following Water-Supply Papers of the United States Geological Survey:

Description: 133, p 274.

Discharge: 100, p 224; 133, p 275.

Discharge, monthly: 133, p 276.

Gage heights: 133, p 275.

Rating table: 133, p 276.

DISCHARGE MEASUREMENTS  
of Spanish Fork near Lake Shore, Utah, in 1904.

Date.	Hydrographer.	Area of section. Square ft.	Mean velocity. Ft. per sec.	Gage height. Feet.	Discharge. Second-ft.
February 3	C. Tanner	25	2.30	3.02	60
February 24	do	44	2.68	3.05	112
March 27	W. P. Hardesty	33	2.00	3.35	88
April 22	C. Tanner	61	2.70	4.22	170
May 20	W. Swendsen	63	2.76	4.08	172
May 20	C. Tanner	65	2.73	4.08	177
May 28	W. Swendsen	33	2.61	3.46	82
December 22	do	22	2.27	*4.61 2.80	60

\*Gage at cable.

**MEAN DAILY GAGE HEIGHT.**  
In feet, of Spanish Fork, near Lake Shore, Utah, for 1904.

Day.	Jan.	Feb.	Mar.	Apr.	May	†Dec.
1.	2.87	*	3.27	3.75	4.35	-----
2.	2.90	3.00	3.36	3.72	4.37	-----
3.	2.90	3.02	3.30	3.72	4.42	-----
4.	2.92	2.97	3.35	4.00	4.85	-----
5.	2.92	2.97	3.28	4.05	4.75	-----
6.	2.92	2.90	3.23	3.90	4.72	-----
7.	2.90	2.90	3.27	3.65	5.15	2.80
8.	2.87	2.93	3.36	3.62	5.12	2.80
9.	2.87	2.90	3.52	3.63	4.97	2.80
10.	*	2.90	3.25	3.82	5.10	2.80
11.	*	2.97	3.37	3.90	5.35	2.80
12.	*	2.92	3.30	4.02	5.35	2.80
13.	*	2.98	3.32	4.05	5.35	2.80
14.	*	2.97	3.28	4.17	5.10	2.80
15.	*	3.02	3.30	4.25	4.75	2.80
16.	*	3.11	3.32	4.20	4.55	2.80
17.	*	3.02	3.25	4.10	4.27	2.80
18.	*	3.00	3.17	4.21	4.27	2.80
19.	*	3.90	3.10	4.32	4.35	2.80
20.	*	3.02	3.30	4.50	4.12	2.80
21.	*	3.06	3.10	4.45	4.27	2.80
22.	*	3.24	3.00	4.20	4.10	2.80
23.	*	3.66	3.20	4.15	3.85	2.80
24.	*	3.71	3.27	4.02	3.80	2.80
25.	*	3.72	3.30	3.97	3.80	2.80
26.	*	3.75	3.17	4.15	3.40	2.80
27.	*	3.52	3.32	4.42	3.42	2.80
28.	*	3.55	3.30	4.45	3.15	2.80
29.	*	3.32	5.02	4.45	2.80	2.80
30.	*	-----	4.17	4.32	2.55	2.80
31.	*	-----	3.02	-----	2.37	2.80

\*Ice.

†Gage heights are worked up by a comparison of gage heights at old and new gages and refer to old gage.

Note.—Total flow of river diverted for irrigation June 1 to December 6.

**RATING TABLE**  
For Spanish Fork, near Lake Shore, Utah, from January 1 to May 31, 1904.

Gage height.	Discharge.	Gage height.	Discharge.	Gage height.	Discharge.	Gage height.	Discharge.
Feet.	Sec.-feet.	Feet.	Sec.-feet.	Feet.	Sec.-feet.	Feet.	Sec.-feet.
2.40	42	3.20	71	4.00	158	4.80	202
2.50	43	3.30	78	4.10	171	4.90	275
2.60	46	3.40	87	4.20	184	5.00	288
2.70	47	3.50	96	4.30	197	5.10	301
2.80	50	3.00	107	4.40	210	5.20	314
2.90	54	3.70	110	4.50	223	5.30	327
3.00	58	3.80	132	4.60	236	5.40	340
3.10	61	3.00	645	4.70	249	5.50	353

The above table is applicable only for open-channel conditions. It is based upon 8 discharge measurements made during 1904. It is well defined between gage heights 3.00 feet and 4.10 feet. The table has been extended beyond these limits. Above gage height 3.70 feet the rating curve is a tangent, the difference being 13 per tenth.

**ESTIMATED MONTHLY DISCHARGE**  
**Of Spanish Fork, near Lake Shore, Utah, for 1904.**

Month.	Discharge in second-feet.			Total in acre-feet.
	Maximum.	Minimum.	Mean.	
January*	55	53	53.3	3,277
February	145	53	76.2	4,383
March	201	58	88.7	5,454
April	223	109	168	9,997
May	333	42	202	12,420
June†				2,480
December 7-31‡				
The period				38,010

\*River frozen January 10 to February 1; discharge estimated.

†Stream dry June 1 to December 6.

‡Water turned in river December 7; average discharge estimated at 50 second-feet.

**DISCHARGE MEASUREMENTS**  
**Of Spanish Fork, near Lake Shore, Utah, in 1905.**

Date.	Hydrographer.	Width.	Area of section.	Mean velocity.	Gage height.	Discharge.
		Feet.	Square feet.	Ft. per second.	Feet.	Second-feet.
January 27	H. S. Kleinschmidt	30	26	2.57	4.01	90
February 15	do	20	21	2.31	4.37	49
March 10	do	28	18	2.27	4.12	42
April 6	W. G. Swendsen	28	23	2.41	4.35	90
April 20	do	32	30	2.07	4.78	90
May 4*	W. P. Hardesty	6	0.7	2.81	3.85	10
May 22	W. G. Swendsen	24	15	2.55	4.05	38
December 4	do	28	18	2.16	4.12	38

\*30 feet below regular station.

**DAILY GAGE HEIGHT**  
 In feet of Spanish Fork, near Lake Shore, Utah, for 1905.

Day.	Jan.	Feb.	Mar.	Apr.	May	Nov.	Dec.
1.	4.6	4.67	4.52	4.5	4.75	-----	4.0
2.	4.1	4.97	4.58	4.35	4.3	-----	4.2
3.	4.2	4.85	4.52	4.33	4.2	-----	4.2
4.	4.2	4.8	4.5	4.3	3.85	-----	4.2
5.	4.1	4.73	4.55	4.31	3.6	-----	4.18
6.	4.4	4.7	4.53	4.35	3.48	-----	4.1
7.	4.2	4.68	3.9	4.48	3.43	-----	4.05
8.	4.45	4.61	4.1	4.58	3.42	-----	4.0
9.	4.45	4.5	4.11	4.68	3.43	-----	-----
10.	4.2	4.58	4.15	5.1	3.4	-----	4.0
11.	4.02	4.6	4.05	4.98	3.42	-----	4.1
12.	4.7	4.2	4.1	4.88	3.43	-----	4.2
13.	4.6	4.1	4.12	4.8	3.4	-----	4.2
14.	4.8	4.39	4.2	4.85	3.38	-----	4.3
15.	4.8	4.38	4.15	4.88	3.38	-----	4.3
16.	4.6	4.52	4.1	4.9	3.38	-----	4.1
17.	4.02	4.6	4.08	4.9	3.4	-----	4.3
18.	4.6	4.6	4.1	5.0	4.0	-----	4.3
19.	4.5	4.59	4.15	4.9	4.02	-----	4.1
20.	4.6	4.58	4.3	4.85	3.7	-----	4.1
21.	4.6	4.6	4.25	4.72	3.7	-----	4.1
22.	4.03	4.01	4.3	4.71	3.9	-----	4.1
23.	4.7	4.55	4.3	4.03	4.3	-----	4.2
24.	4.03	4.03	4.2	4.73	4.03	-----	4.2
25.	4.02	4.55	4.2	4.05	3.5	-----	4.2
26.	4.01	4.58	4.0	4.08	3.55	-----	4.3
27.	4.0	4.68	4.15	4.70	3.5	-----	4.3
28.	4.50	4.51	4.1	4.82	3.53	-----	4.2
29.	4.58	-----	4.1	4.8	3.4	-----	4.3
30.	4.0	-----	4.12	4.72	3.0	4.0	4.26
31.	4.01	-----	4.11	-----	3.0	-----	-----

**DAILY DISCHARGE**  
In second-feet, of Spanish Fork, near Lake Shore, Utah, for 1905.

Day.	Jan.	Feb.	Mar.	Apr.	May	Nov.	Dec.
1	53.0	71.0	67.0	77.0	83.0	—	31.5
2	22.5	95.5	71.5	65.0	46.0	—	44.5
3	28.0	85.5	68.0	63.5	38.2	—	44.5
4	29.5	81.2	67.0	61.0	19.0	—	38.5
5	23.0	76.0	72.0	62.5	10.3	—	43.5
6	41.0	73.0	71.5	66.0	7.0	—	38.0
7	29.5	72.2	27.5	76.0	6.5	—	34.7
8	45.5	66.0	39.0	83.5	6.0	—	32.0
9	46.0	58.0	41.5	92.0	6.5	—	32.0
10	30.0	64.5	42.0	129.0	6.0	—	32.0
11	58.5	66.0	37.5	117.5	6.5	—	38.0
12	66.0	36.0	41.0	108.0	7.0	—	44.5
13	58.5	30.5	42.5	100.0	6.5	—	44.5
14	75.0	50.0	48.5	104.0	6.2	—	51.5
15	59.0	49.0	45.5	106.5	6.5	—	51.5
16	60.0	50.5	42.0	108.0	6.8	—	38.5
17	62.0	67.0	41.5	108.0	7.5	—	51.5
18	61.0	67.5	48.0	118.0	33.5	—	51.5
19	53.0	67.0	46.5	100.0	35.0	—	30.0
20	61.0	67.0	58.0	96.0	18.5	—	38.0
21	62.0	69.0	54.0	89.5	19.3	—	38.0
22	65.0	70.5	58.0	88.0	28.5	—	38.0
23	71.0	66.0	58.0	80.0	54.5	—	44.5
24	65.5	66.5	51.0	88.0	30.5	—	44.5
25	64.5	67.5	51.5	80.5	11.2	—	44.5
26	65.0	70.5	38.0	82.0	13.0	—	51.5
27	66.0	71.5	48.0	90.0	11.0	—	51.5
28	64.5	63.5	45.0	91.0	12.0	—	44.5
29	63.5	—	45.2	89.0	7.5	0.0	51.5
30	65.0	—	46.5	80.0	0.0	32.5	48.0
31	65.5	—	46.0	—	0.0	—	48.0

Note.—Total flow of river diverted for irrigation May 30 to November 20.  
Daily discharge obtained by indirect method for shifting channels. Discharge  
interpolated December 9 and 31.

**ESTIMATED MONTHLY DISCHARGE**  
Of Spanish Fork, near Lake Shore, Utah, for 1905.

Month.	Discharge in second-feet.			Total in acre-feet.
	Maximum.	Minimum.	Mean.	
January	75	22.5	54.2	3,333
February	95.5	30.5	60.0	3,005
March	72	27.5	50.1	3,080
April	120	61	66.1	5,301
May	83	0	17.0	1,101
June	0	0	0	0
July	0	0	0	0
August	0	0	0	0
September	0	0	0	0
October	0	0	0	0
November	32.5	0	1.08	0.1
December	61.5	31.5	42.7	2,020
The year	120	0	26.8	10,230

**PRECIPITATION**  
At Indianola, in drainage basin of Spanish Fork River.

Year.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.	Ann.
1894 -----						0.48	1.04	0.03	0.25	0.50		0.84	-----
1895 -----	0.00	0.16	1.15	0.04	1.11	0.00	0.05	0.20	0.05	0.12	0.18	0.73	0.57
Mean -----						0.24	0.55	0.12	0.60	0.31		0.78	-----

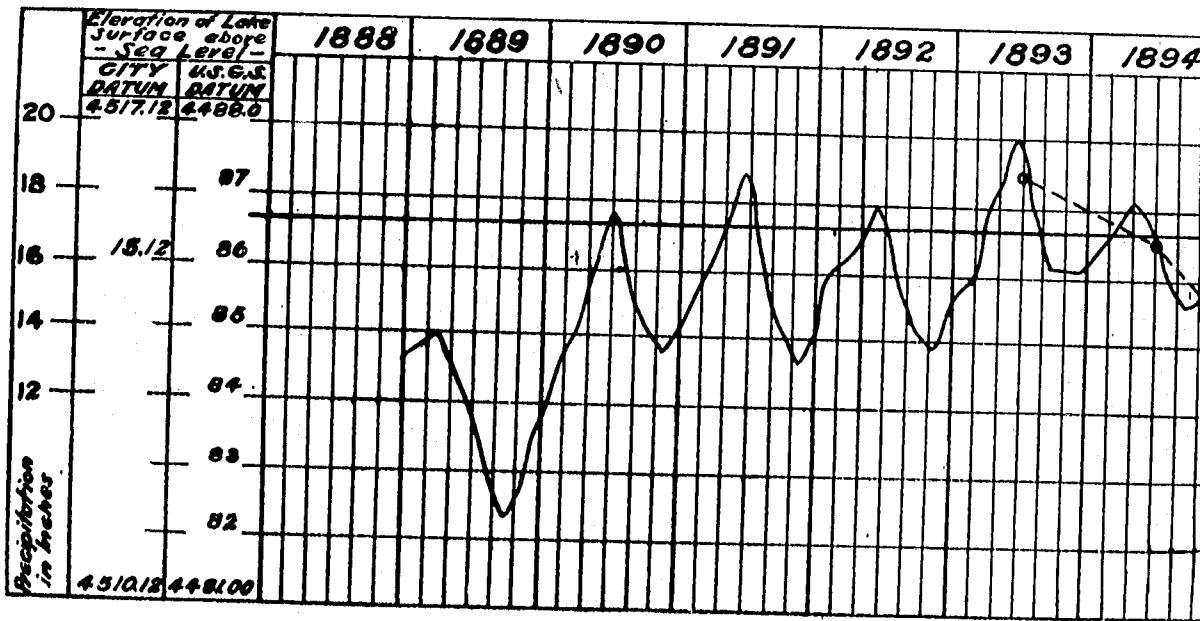
**PRECIPITATION**  
At Soldier Summit, in drainage basin of Spanish Fork River.

Year.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.	Ann.
1892 -----		0.20	0.80	0.83	2.20	0.20	0.12	2.13			0.71	1.19	-----
1893 -----				0.53	0.00	0.23	0.22	0.27					-----
1894 -----	3.55	2.20	3.40	0.33	0.45	0.55	1.01	0.17	0.80	0.56	0.02	4.10	17.21
1895 -----	3.50	1.08	1.40	0.32	0.32	0.29	0.34	0.32	0.37	0.17	1.00	1.05	11.96
1896 -----	1.10	1.15	1.47	1.02	0.38	0.14	0.80	0.40	0.48	0.60	3.25	0.00	11.00
1897 -----	1.82	2.80	5.23	0.67	0.10	0.12	0.02	0.06	2.45	0.05	1.34	2.50	17.70
1898 -----	1.25	0.68	2.02	1.50	3.12	0.13	0.10	0.10	0.02	0.65	1.15	1.15	12.73
1899 -----	1.70	3.80	1.40	0.20	0.65	0.44	0.55	0.45	0.00	1.00	0.70	2.35	13.84
1900 -----	0.50	1.80	0.30	0.40	0.00	0.00	0.25	0.30	0.20	0.20			-----
1901 -----	0.85	3.00				0.21	0.05	1.00	1.68	0.81	0.02		0.00
1902 -----	0.55	0.70	0.80	0.04	0.02	0.00							-----
1903 -----			0.20			0.00	2.00						-----
1904 -----	1.35	1.30	2.08	0.60	2.22	0.73	0.55	1.15	0.62	1.21	0.00	0.60	13.37
1905 -----	0.50	1.20	1.23	0.81	0.40	0.00			2.05	0.00	1.25	0.37	-----
1906 -----	0.38	1.03	0.64	0.24	1.17	0.21	0.10	1.20		0.00			-----
Mean -----	1.43	1.71	1.70	0.50	0.87	0.20	0.55	0.70	0.37	0.50	1.13	1.58	14.11

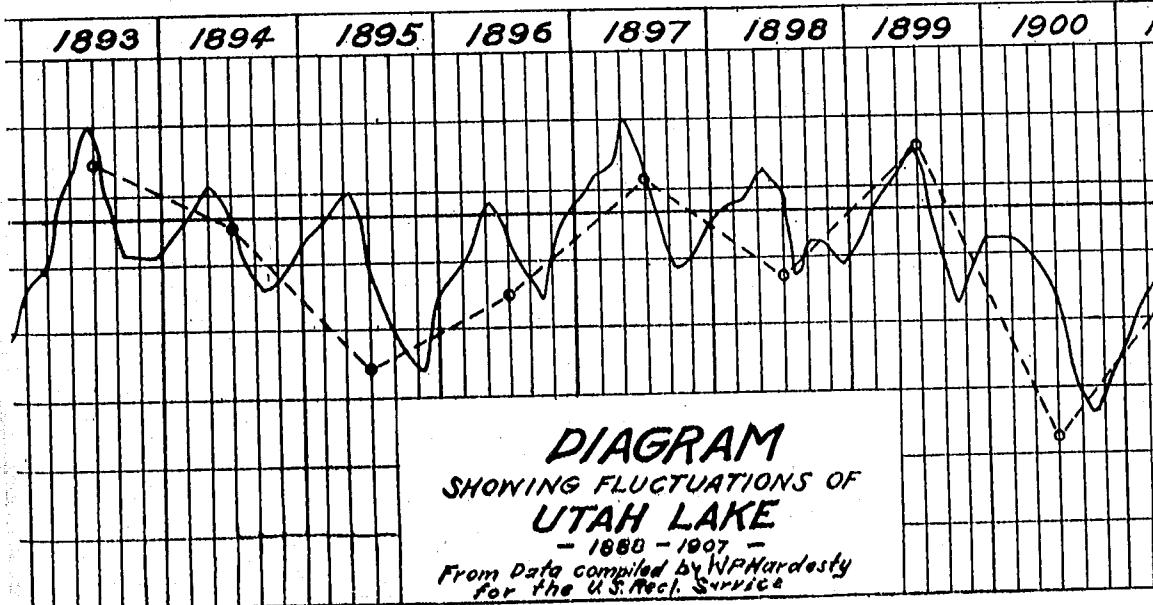
**PRECIPITATION**  
At Thistle, in drainage basin of Spanish Fork River.

Year.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.	Ann.
1892 -----		1.43	3.45	1.10	1.73	0.20	0.03			0.07	0.50	0.00	-----
1893 -----	1.50				0.05	0.00		2.40	0.24	0.12	1.00	1.20	-----
1894 -----	1.00	2.25	1.60					1.24	1.80	0.18	0.26	3.53	-----
1895 -----	0.82	1.30	0.70	0.01	0.35		0.51			0.00	1.01		-----
1896 -----	*1.53	0.18	1.75	1.00	1.80	2.00	2.43	0.03	*1.34	0.47	0.70	0.20	14.03
1897 -----	1.03	2.05	3.00			0.77	0.58	0.00	2.10				1.35
1898 -----	1.03	0.30	0.75	0.00	2.30	0.00				1.20	1.20	1.85	-----
1899 -----	1.00	2.40	1.30	0.03	0.88	0.00				0.40	2.08		-----
1900 -----	0.30	0.47	0.00	1.77	0.03	0.10	0.10	0.10	0.40	1.00	0.73	1.80	7.10
1901 -----	*1.53	2.35	2.40	1.16	0.86	0.03	0.11	3.05	0.25	1.16	0.03	2.00	15.82
1902 -----	1.00	2.05	2.00		2.23	0.35	0.00	0.35	0.20	0.85	0.41	2.10	1.46
1903 -----					1.75	1.00	0.35	0.63	0.10	0.60	1.43	0.80	1.40
1904 -----	1.00	1.55	1.04	0.00	2.03	0.82	0.32	0.40	1.00	0.27	0.00	1.50	14.21
1905 -----	0.07	0.00	1.05	2.00	0.70	0.00	0.30	0.24	3.18	0.36	1.15	1.60	12.04
1906 -----	3.00	1.80	4.77	2.02	2.28	0.80	0.10	2.77	*1.34	0.06	0.81	1.50	20.01
Mean -----	1.63	1.42	1.04	1.24	1.10	0.39	0.45	1.11	1.34	0.48	1.07	1.43	13.66

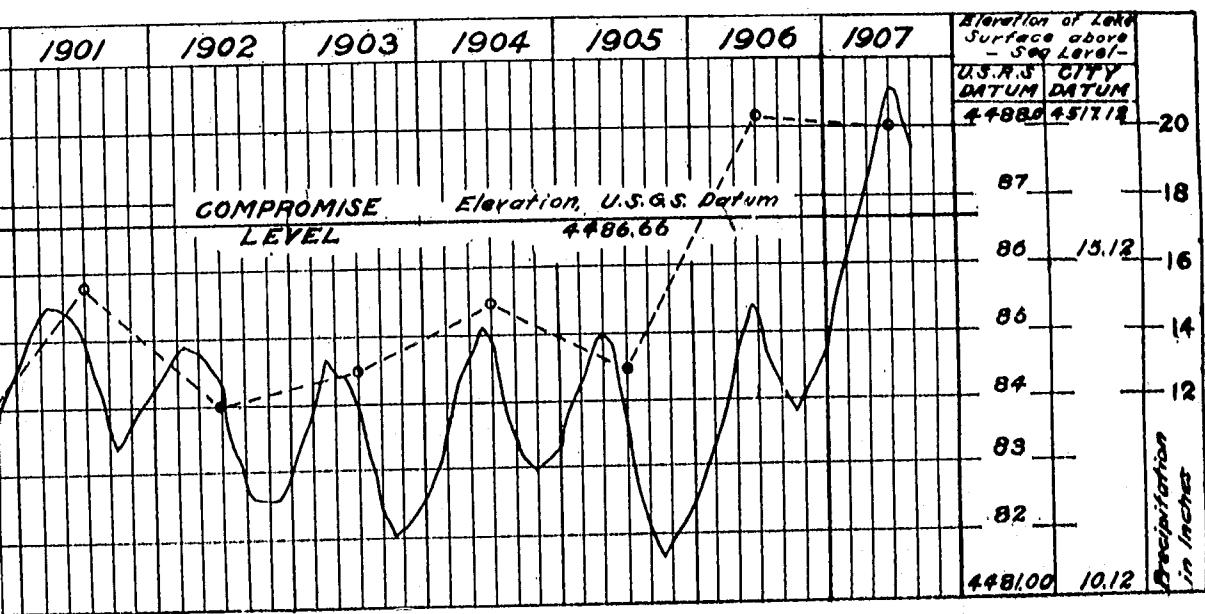
\*Missing; mean value inserted.



Small circles and dash line show a



and dash line show average precipitation at Provo, Heber, Soldier Summit and Thistle



The accompanying Diagram of Fluctuations of Utah Lake is made from data compiled by W. P. Hardesty for the U. S. Reclamation Service. The record of fluctuations previous to 1900 is incomplete and of doubtful accuracy. Gage heights previous to 1900 were observed on a gage at the Geneva Resort near American Fork, Utah. This gage has been destroyed, and no direct relationship has been established between its datum and that of the gage at the Pumping Plant at the head of the Jordan River, where the record has been kept since 1900 by the Salt Lake City Engineer's office.

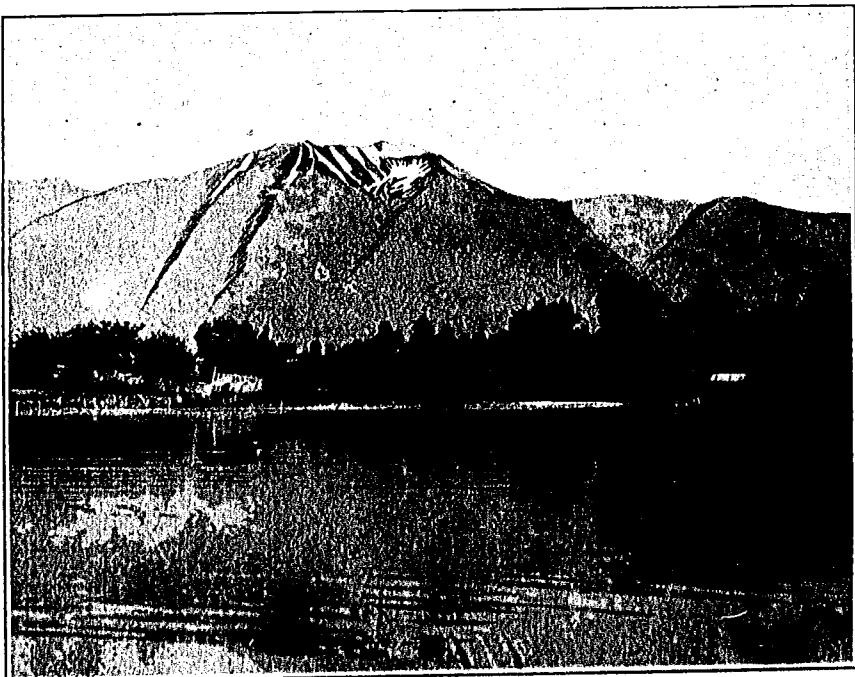
It is thought that the relationship between the two gages has been fairly accurately determined, and that the diagram published herewith fairly well represents the lake fluctuations.

## MISCELLANEOUS MEASUREMENTS IN INTERIOR BASIN.

The following miscellaneous measurements were made in the interior basin  
in 1903:

MISCELLANEOUS MEASUREMENTS  
In Utah, in 1903.

Date.	Hydrographer.	Stream.	Location.	Discharge. Sec.ft.
Apr. 7	C. Tanner	Hobble Creek	Above canals	22
Aug. 14	do	do	do	14
Nov. 4	do	do	do	13
Dec. 5	do	do	do	3
Dec. 16	do	do	do	15
May 2	do	Peteetneet Creek		34
Aug. 14	do	do	At weir	6
Nov. 4	do	do	do	32
Dec. 8	do	do	do	2
May 2	do	Santaquin Creek		27
Aug. 13	do	do		7
Nov. 1	do	do		6
Dec. 1	do	Battle Creek		3
Dec. 2	do	Grove Creek		1
Dec. 3	do	Dry Creek		7
Dec. 1	do	Fort Canyon Creek		3
Dec. 9	do	Currant Creek		10
Dec. 5	do	Little Spring Creek		5
Dec. 10	do	Spanish Fork River	At lake shore (gage height, 2.00).	46
Apr. 11	do	Salina Creek	Near Salina	30
Jan. 25	do	do	do	14



#### SALEM POND,

Between Spanish Fork and Payson, showing late supply of snow on  
Loafer Mountain. (View taken June 15.)

Salem Pond furnishes a uniform flow of about 2 to 3 sec. ft. It is  
fed entirely by springs, practically no direct runoff coming  
from the mountains.

MISCELLANEOUS MEASUREMENTS  
 In Utah Lake basin, in 1904.  
 (By C. Tanner, W. G. Swendsen, and H. S. Kleinschmidt.)

Date.	Stream.	Locality	Width	Area of section.	Mean velocity.	Gage height.	Discharge.
			Feet.	Square feet.	Ft. per second	Feet.	Sec. feet.
Feb. 2	Peteetneet Creek	Payson -----	7	4.7	1.08	-----	5
Feb. 2	do	At rating flume -----	3.5	1.5	1.44	-----	2
May 17	do	In canyon -----	18	22	3.64	1.03	77
May 17	do	do -----	18	20	3.95	1.40	77
Sept. 16	do	Payson -----	10	5.0	1.54	-----	8
Apr. 19	Payson slough	Near mouth -----	16	14	.03	-----	13
May 16	do	do -----	10	13	.01	-----	8
Dec. 22	do	do -----	12	7.0	.01	-----	7
July 26	Provo Bench canal,	Below mouth of canyon.	16	20	2.03	-----	67
July 26	Tanner's race	Provo, Utah -----	8	6.0	2.50	-----	15
Sept. 17	Discharge of Salem pond.	Salem, Utah -----	-----	-----	-----	-----	3
May 26	Lake Shore canal.	Lake Shore, Utah -----	10	32	2.34	-----	75
May 27	Millrace	Spanish Fork, Utah -----	13	20	3.60	-----	108
May 27	Canal	do -----	7	9.0	2.70	-----	26
May 27	Bench canal	Near mouth of canyon.	7	24	4.37	-----	100
May 27	Salem canal	do -----	12	21	1.04	-----	34
May 27	New Survey canal.	do -----	8	19	3.10	-----	50
May 27	Mill race waste.	Below Spanish Fork City.	13	13	1.77	-----	23
Sept. 10	Spring Lake	Spring Lake, Utah -----	5	2.8	.01	-----	2
July 26	West Union canal.	Near Provo, Utah -----	12	11	3.30	.85	37
Apr. 3	Daniels Creek	Daniels canyon -----	-----	-----	-----	-----	0
May 17	Santaquin Creek	Santaquin, Utah -----	11	15	4.00	-----	70
Sept. 10	do	do -----	10	5.6	1.71	-----	1
Dec. 20	Provo River	Above Telluride Power Co.'s intake dam.	63	128	1.03	-----	248
Jan. 10	to Utah Lake	41 streams -----	-----	-----	-----	-----	206
Jna. 23	seepage*	-----	-----	-----	-----	-----	-----
May 14	to do	44 streams -----	-----	-----	-----	-----	326
May 15	do	25 streams -----	-----	-----	-----	-----	361
June 18	to do	20 streams -----	-----	-----	-----	-----	172
June 23	Aug. 1	26 streams -----	-----	-----	-----	-----	126
Aug. 2	to do	25 streams -----	-----	-----	-----	-----	175
Oct. 15	do	do -----	-----	-----	-----	-----	172
Dec. 3	to do	do -----	-----	-----	-----	-----	172
Dec. 6			-----	-----	-----	-----	-----

\*This includes all measured inflow excepting Provo River and Spanish Fork River.

**ESTIMATED MONTHLY DISCHARGE**  
**Of all measured streams flowing into Utah Lake, near shore of lake, Utah, for**  
**1904.**

Month.	Total in acre-feet.	Month.	Total in acre-feet.
January	24,470	August	8,141
February	32,770	September	9,174
March	37,820	October	12,300
April	48,470	November	15,230
May	88,160	December	21,400
June	52,400		
July	8,718	The year	359,200

Note.—The above table includes all measurable streams of any character flowing into Utah Lake.

**MISCELLANEOUS MEASUREMENTS**  
**In Great Basin, 1905.**

The following miscellaneous measurements were made in the Great Basin in 1905 by W. G. Swondsen, H. S. Kleinschmidt, W. P. Hardesty, A. B. Larson.

Date	Stream	Locality	Width	Area of sec. section.	Mean velocity.	Gage height.	Discharge.
			Feet,	Square feet,	Ft. per second,	Feet.	Sec. feet.
Mar. 8	Jordan River	Near Lehi, Utah	40	20	.88	.50	17
Jan. 28	Hobble Creek	Springville, Utah, near mouth of cr'k.	23	13.0	1.40	-----	10
Feb. 15	do	do	10	0.8	1.82	-----	15
Mar. 9	do	do	8	8.0	.83	-----	0.5
Apr. 3	Peteetneet Cr'k.	At mouth of canyon near Payson, Utah	10	-----	-----	-----	20.0
May 6	do	do	10	-----	-----	-----	11.4
Aug. 31	do	do	3.45	3.80	.02	-----	3.55
May 8	Summit Creek	Near Santaquin, Ut.	11	7.3	2.05	-----	21.5
May 12	do	do	0	3.1	4.81	.68	15
June 10	do	do	0	0.5	3.71	1.08	24
Aug. 31	do	do	0	4.3	1.01	.72	7

## SEVIER RIVER BASIN.

### SEVIER RIVER, NEAR GUNNISON, UTAH.

Sevier River rises in the northwestern part of Kane County, in southern Utah, flows northeastward to a point near Gunnison, northwestward nearly to Leamington, and then turns sharply to the southwest and discharges into Sevier Lake.

Tributary streams are few, San Pitch River and Salina Creek being the most important. The San Pitch joins the main stream about 3 miles below the gaging station, but since its flow is used for irrigation and is completely controlled by storage reservoirs, it furnishes little of the supply. Salina Creek, which enters about 15 miles above the station, is subject to rapid run-off and during flood seasons carries an immense amount of sediment.

There is considerable irrigation from the Sevier above Gunnison, and a few small storage reservoirs partly control the flood discharge.

The station was established June 29, 1900. It is located at the wagon bridge over the Sevier about 4 miles west of Gunnison, on the road to Westview precinct.

The channel is straight for about 300 feet above and below the station, with banks sufficiently high to prevent overflow. The bed of the stream is composed of sand and gravel and is smooth and apparently permanent. The current is sluggish at low water, but at ordinary stages ranges from 2 to 3 feet per second. At the high-water section the velocity is greatest at the right side, decreasing somewhat uniformly toward the left, where it is low. Floating ice during the winter season may make records at certain stages impossible. There is a free flow at the low-water but not at the high-water section.

*During ordinary stages discharge measurements are made from the upstream side of the bridge, the floor of which is marked at 5-foot intervals, beginning at the bridge pile to which the gage is attached, this being the initial point for soundings. At extreme low water the velocity at this point is too low for favorable results, and measurements are made by 2 by 4 inch post on each bank. The initial point for soundings at this section is the post on the left bank.*

The gage is read daily by L. H. Erickson, a farmer. The

original gage was a 1 by 4 inch piece of redwood nailed vertically to a bridge pier on the right bank on the upstream side of the bridge. In January, 1905, a new 6 by 6 inch inclined gage was established at a point about 25 feet below the old one. It is fastened to double posts set in the bank. Both gages have the same datum and are referred to bench marks as follows: (1) A large spike driven into the side of a cedar post 46 feet S.  $74^{\circ}$  E. from the gage; elevation, 8.55 feet. (2) A nail in the top of railing post at the northeast corner of the bridge 13 feet north of the gage; elevation, 13.18 feet. (3) A United States Geological survey standard iron post set in the ground 153 feet S.  $84^{\circ} 30'$  E. from the old gage; elevation, 10.10 feet. Elevations are above datum of gage.

Information in regard to this station is contained in the following publications of the United States Geological Survey (Ann=Annual Report; WS=Water-Supply Paper):

Description: WS 51, p 425; 66, p 126; 85, p 88; 100, pp 147-148; 133, pp 277-278.

Discharge: WS 51, p 425; 66, p 126; 85, p 88; 100, p 148; 133, p 278.

Discharge, monthly: Ann 22, iv, p 420; WS 75, p 197; 85, p 90; 100, p 149; 133, p 280.

Gage heights: WS 51, p 426; 66, p 126; 85, p 89; 100, pp 148-149; 133, p 279.

Hydrograph: Ann 22, iv, p 420.

Rating tables: W. S. 52, p 521; 66, p 176; 85, p 89; 100, p 148; 133, p 280.

**DISCHARGE MEASUREMENTS  
Of Sevier River, at Gunnison, Utah, in 1000.**

Date.	Hydrographer.	Gage height. Feet.	Discharge. Second-feet.
June 20 .....	C. Tanner.....	.00	10
July 26 .....	do.....	.00	22
August 7 .....	do.....	.02	20
August 8* .....	do.....		20
September 10 .....	do.....	.02	18
December 26 .....	do.....	1.00	40

\*30 miles down stream from gage.

**DAILY GAGE HEIGHT**  
Of Sevier River, near Gunnison, Utah, for 1900.

Day.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
1							.50	.63	.63	.80	.00	.05
2							.50				.88	.05
3							.55		.63	.80	.88	.05
4							.63		.80	.78	.85	.83
5							.75		.70		.85	.00
6							.73		.65		.83	.00
7									.05			.88
8									.63			.88
9												.08
10							.73					1.05
11							.70					1.03
12							.73					1.00
13							.76	.03				1.00
14							.76	.00		.78		.95
15							.73			.80	.83	
16							.73			.83	.85	.05
17							.73			.81	.85	.08
18							1.10			.80	.03	.08
19							.93			.88	.03	.05
20							.78				.90	.00
21							.80			.88	.90	1.10
22										.85	.00	.88
23									.63		.03	.83
24							.80	.00	.70			1.13
25							.03	.60	.76			1.00
26							.70	.60		.85		1.00
27							.70	.00	.76	.83		1.13
28							.03	.00	.80	.83	.03	1.13
29									.80	.85	.03	1.16
30							.03	.63	.80	.85	.88	
31							.03	.03		.90		

**ESTIMATED MONTHLY DISCHARGE**  
Of Sevier River, near Gunnison, Utah, for 1900.  
(Drainage area, 3,080 square miles.)

Month.	Discharge in Second-Feet.			Total in Acre Feet.	Run-Off,	
	Maximum	Minimum	Mean.		Sec.-ft. per Sq. mile.	Depth in Inches.
July	60	10	26	1,600	0.007	0.008
August	10	17	18	1,107	0.005	.006
September	33	10	22	1,300	.000	.007
October	41	31	34	2,001	.000	.010
November	43	35	39	2,321	.010	.010
December	64	35	47	2,800	.010	.010

**DAILY GAGE HEIGHT**  
Of Sevier River, near Gunnison, for 1901.

Day.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
1-----	* 1.65	1.32	1.25	1.15	1.80	.40	.67	.60	.45	.60	.60	.90
2-----	* 1.67	1.30	1.15	1.15	1.65	.37	.80	.60	.45	.60	.62	---
3-----	* .165	1.28	1.12	1.22	1.00	.37	.80	.55	.42	---	.62	---
4-----	* 1.67	1.22	1.12	1.02	1.55	.35	.82	.60	---	---	.65	---
5-----	* 1.77	1.18	1.10	1.10	1.40	.37	.80	.60	---	---	.65	---
6-----	1.30	1.07	1.18	1.10	1.07	1.00	---	.82	.55	---	.70	.90
7-----	1.40	1.77	1.15	.92	1.10	1.00	---	.62	.50	---	.72	.97
8-----	1.35	1.67	1.10	.92	1.05	1.00	---	.60	.60	---	.85	1.00
9-----	1.35	1.67	---	1.00	1.15	.90	---	.60	.60	---	---	1.00
10-----	1.30	1.73	---	1.10	1.15	.60	---	.57	.57	---	---	1.05
11-----	1.45	1.70	---	.62	1.25	.60	---	.57	.57	---	---	---
12-----	1.05	1.65	1.10	1.00	1.40	.55	---	.55	.55	---	.85	---
13-----	1.75	1.55	1.02	.92	1.25	.50	---	---	---	---	.82	---
14-----	1.73	1.78	---	.92	1.40	.50	.37	---	---	---	.82	1.05
15-----	1.73	1.71	---	1.00	1.00	.05	.49	.55	.55	---	.82	1.15
16-----	1.80	1.05	---	.82	1.65	.95	---	.60	.52	---	.85	1.15
17-----	1.50	1.95	---	.87	1.90	.05	---	.95	.50	---	.85	1.15
18-----	1.67	2.05	---	.87	2.10	.90	---	.87	---	---	---	1.45
19-----	1.80	2.15	1.02	.87	2.30	.90	---	.80	---	---	.00	1.50
20-----	1.70	2.15	1.00	.90	2.60	.92	.47	1.10	.50	---	.05	1.50
21-----	1.87	2.00	.90	.87	2.80	.90	.45	.97	.45	---	.90	1.60
22-----	1.95	1.93	.90	.87	2.00	.90	.46	.72	.50	---	---	1.70
23-----	1.75	1.93	.75	.90	2.50	.60	.45	.60	---	---	---	1.75
24-----	1.92	1.70	.75	.87	2.50	.50	.47	.60	---	---	---	1.80
25-----	1.87	1.62	.75	.90	2.10	.50	.57	.60	---	---	---	1.90
26-----	1.93	1.50	1.02	.95	2.20	.50	.57	.55	---	---	---	2.00
27-----	1.90	1.50	1.12	.95	2.20	.45	.60	.55	---	.42	---	2.00
28-----	1.87	1.45	1.22	.92	2.15	.47	.60	.60	---	.47	---	2.00
29-----	1.85	---	1.12	.92	2.15	.45	.60	.60	---	.50	---	1.90
30-----	1.80	---	1.12	.95	2.00	.45	.05	.55	.45	.52	.00	2.05
31-----	1.65	---	1.15	1.85	---	.05	.60	---	.52	---	---	2.00

**ESTIMATED MONTHLY DISCHARGE**  
Of Sevier River, near Gunnison, Utah, for 1901.  
(Drainage area, 3,086 square miles.)

Month.	Discharge in Second-Feet.			Total in Acre Feet.	Run-Off.		
	Maximum.	Minimum.	Mean.		Sec.-ft. per Sq. mile.	Depth in Inches.	
January -----	-----	-----	-----	118	7,265	0.029	0.033
February -----	161	94	125	6,042	.031	.032	
March -----	81	20	56	3,443	.014	.016	
April -----	74	19	45	2,678	.011	.012	
May -----	230	51	122	7,501	.031	.036	
June -----	120	8	41	2,440	.010	.011	
July -----	21	5	9	553	.002	.002	
August -----	59	14	24	1,470	.006	.006	
September -----	17	9	12	714	.003	.003	
October -----	12	7	8	476	.002	.002	
November -----	41	17	34	2,023	.000	.009	
December -----	154	41	81	4,080	.020	.023	
The year --	230	5	56	40,481	.014	.185	

During 1902 the following measurements were made by Caleb Tanner:

May 18: Gage height, 0.88 foot; discharge, 41 second-feet.

August 15: Gage height, 0.62 foot; discharge, 19 second-feet.

**DAILY GAGE HEIGHT**  
In feet, of Sevier River, near Gunnison, Utah, for 1902.

Day.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
1-----	2.00	*	1.50	1.32	0.42	0.50	0.80	0.52	0.60	0.55	0.40	0.95
2-----	2.05	1.82	1.50	1.32	.42	.55	.80	.52	.60	.50	.35	.05
3-----	2.10	1.82	1.52	1.30	.42	.50	.60	.52	.62	.50	.35	1.05
4-----	2.10	2.00	1.45	1.30	.42	.50	.60	.57	.60	.50	.35	1.05
5-----	2.10	2.02	1.40	1.30	.42	.50	.60	.57	.60	.47	.35	1.00
6-----	2.10	2.27	1.40	1.32	.45	.42	.67	.67	.60	.47	.35	1.00
7-----	2.05	2.30	1.40	1.32	.55	.42	.60	.67	.60	.45	.35	1.50
8-----	2.10	2.42	1.40	1.32	.55	.42	.60	.62	.62	.45	.35	1.70
9-----	2.10	2.42	1.10	1.32	.55	.42	.50	.62	.62	.45	.35	1.70
10-----	2.15	2.37	1.10	1.35	.60	.40	.50	.62	.62	.45	.35	1.55
11-----	2.10	2.37	1.10	1.35	.70	.40	.50	.62	.62	.45	.35	1.00
12-----	2.10	2.45	1.10	1.35	.80	.40	.50	.62	.62	.45	.35	1.60
13-----	2.10	2.40	1.02	1.25	.80	.40	.50	.62	.62	.45	.35	1.55
14-----	2.10	2.40	1.02	1.20	.97	.40	.50	.62	.62	.50	.35	1.60
15-----	2.10	2.37	1.02	1.20	.97	.42	.50	.60	.62	.50	.35	1.05
16-----	2.05	2.00	1.05	1.15	1.10	.50	.50	.60	.62	.50	.37	1.55
17-----	2.05	2.00	1.20	1.15	1.00	.65	.52	.60	.60	.50	.35	1.60
18-----	2.02	1.97	1.15	1.12	.90	.65	.52	.60	.60	.50	.35	1.60
19-----	2.00	1.90	1.12	1.15	.80	.70	.60	.60	.60	.50	.35	1.70
20-----	2.00	1.85	1.25	1.22	.70	.70	.57	.60	.66	.50	.35	1.70
21-----	2.00	1.82	1.22	1.20	.65	.70	.57	.60	.60	.47	.50	1.65
22-----	2.02	1.77	1.22	1.20	.55	.67	.55	.60	.60	.47	.50	1.65
23-----	1.92	1.70	1.22	1.15	.50	.62	.52	.60	.60	.47	.50	1.70
24-----	1.92	1.62	1.12	1.10	.50	.62	.52	.60	.60	.45	.40	1.70
25-----	1.92	1.62	1.22	1.15	.47	.62	.50	.60	.57	.45	.40	1.05
26-----	*	1.60	1.25	1.05	.50	.60	.50	.60	.57	.45	.45	*
27-----	*	1.60	1.25	.70	.50	.60	.50	.60	.60	.45	.45	*
28-----	*	1.55	1.55	.47	.42	.60	.50	.60	.60	.45	.45	*
29-----	*	1.55	1.55	.42	.52	.80	.50	.60	.57	.45	.45	*
30-----	*	1.52	1.52	.42	.60	.80	.50	.60	.57	.45	.45	*
31-----	*	1.45	1.45	.50	—	.52	—	—	—	.45	—	*

\*Frozen.

**RATING TABLE**  
For Sevier River, near Gunnison, Utah, for 1902.

Gage height,	Discharge,	Gage height,	Discharge,	Gage height,	Discharge,	Gage height,	Discharge,
Feet.	Sec.-feet.	Feet.	Sec.-feet.	Feet.	Sec.-feet.	Feet.	Sec.-feet.
0.4	6	1.1	50	1.8	120	2.5	190
.5	11	1.2	69	1.9	130	2.6	200
.6	17	1.3	79	2.0	140	2.7	210
.7	25	1.4	89	2.1	150	2.8	220
.8	33	1.5	99	2.2	160	2.9	230
.9	41	1.6	109	2.3	170		
1.0	49	1.7	119	2.4	180		

**ESTIMATED MONTHLY DISCHARGE  
Of Sevier River, near Gunnison, Utah, for 1902.  
(Drainage area, 3,986 square miles.)**

Month.	Discharge in Second-Feet.			Total in Acre-Feet.	Run-Off.	
	Maximum.	Minimum.	Mean.		Sec.-ft. per Sq. mile.	Depth in Inches.
January	164	139	151	9,285	.038	.044
February	194	104	149	8,275	.037	.038
March	104	51	76	4,673	.019	.022
April	84	7	65	3,868	.017	.019
May	59	7	20	1,230	.005	.006
June	33	6	15	803	.004	.004
July	33	11	14	861	.004	.005
August	23	12	17	1,045	.004	.004
September	19	15	17	1,012	.004	.004
October	14	8	9	553	.002	.002
November	46	5	14	833	.004	.004
December	119	45	100	6,149	.025	.020
The year	194	5	54	38,677	.014	.182

The observations at this station during 1903 have been made under the direction of G. L. Swendsen, district hydrographer.

**DISCHARGE MEASUREMENTS  
Of Sevier River, near Gunnison, Utah, in 1903.**

Date.	Hydrographer.	Gage height, Feet.	Discharge,
			Second-feet,
January 25	C. Tanner	1.80	103
March 14	do	2.50	380
April 11	do	1.22	91
June 20	do	.78	40
July 30	do	.70	32
September 7	do	.61	26
November 11	do	.85	41

MEAN DAILY GAGE HEIGHT  
In feet, of Sevier River, near Gunnison, Utah, for 1903.

Day.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
1	1.70	—	2.15	1.60	0.30	1.50	0.70	0.68	0.62	0.70	0.74	0.94
2	1.70	—	2.15	1.62	.30	1.50	.68	.70	.64	.70	.80	*
3	1.70	—	2.15	1.65	.50	1.52	.72	.62	.62	.70	.80	*
4	1.80	—	2.15	1.67	.45	1.55	.78	.66	.62	.70	.82	*
5	1.78	—	2.15	1.50	.60	1.75	.70	.70	.62	.72	.84	*
6	1.80	—	2.15	1.50	.60	1.75	.80	.70	.60	.72	.84	*
7	1.80	—	2.10	1.32	.72	1.45	.74	.62	.62	.74	.84	*
8	1.78	—	2.10	1.40	.72	1.35	.68	.62	.62	.74	.84	*
9	1.80	—	2.10	1.25	.77	1.60	.70	.62	.62	.76	.84	*
10	1.80	—	2.10	1.20	.80	1.70	.70	.62	.62	.76	.84	*
11	1.80	—	2.00	1.22	.90	1.70	.72	.62	.64	.74	.84	1.00
12	1.80	—	2.00	1.20	.95	1.55	.72	.68	.64	.76	.86	1.00
13	1.85	—	2.00	1.10	1.05	1.55	.68	.64	.64	.78	.90	1.04
14	1.85	—	2.05	1.10	1.05	1.55	.70	.64	.64	.70	.90	1.08
15	1.80	—	2.40	1.00	1.20	1.65	.70	.64	.64	.76	.94	*
16	1.85	—	2.45	.92	1.20	1.80	.72	.62	.66	.76	.96	*
17	1.80	—	2.45	.92	1.07	1.90	.72	.60	.60	.74	.96	*
18	1.85	—	2.10	.90	1.07	1.70	.74	.60	.66	.74	.90	*
19	1.85	—	2.10	.90	1.20	1.40	.72	.60	.66	.72	1.00	*
20	1.85	—	2.10	.87	1.20	1.40	.78	.60	.68	.72	1.01	2.26
21	1.85	†	1.40	.77	1.40	1.40	.70	.60	.70	.70	1.10	2.30
22	1.85	2.20	1.40	.72	1.55	1.40	.70	.60	.66	.70	1.02	2.28
23	1.82	2.20	1.30	.72	1.60	1.22	.70	.60	.64	.70	1.00	*
24	1.62	2.20	1.30	.72	1.60	.95	.70	.60	.64	.72	1.00	*
25	1.82	2.15	1.35	0.73	1.62	0.82	0.70	0.60	0.61	0.72	0.96	*
26	1.87	2.15	1.30	.73	1.50	.62	.60	.62	.64	.70	.90	*
27	1.87	2.15	1.40	.72	1.50	.62	.81	.60	.64	.72	.90	*
28	—	†	2.15	1.37	.70	1.52	.74	.74	.60	.66	.72	2.00
29	—	—	—	1.37	.70	1.40	.70	.70	.62	.70	.72	1.00
30	—	—	—	1.40	.70	1.30	.76	.70	.62	.70	.72	*
31	—	—	—	1.42	—	1.22	—	.68	.62	—	.72	—

\*Ice.

†River frozen from January 28 to February 21, inclusive.

RATING TABLE  
For Sevier River, near Gunnison, Utah, for 1903.

Gage height,	Discharge,						
Feet.	Sec. feet.						
0.3	8	0.0	47	1.5	135	2.1	203
.4	12	1.0	58	1.6	151	2.2	206
.5	16	1.1	71	1.7	174	2.3	324
.6	22	1.2	85	1.8	191	2.4	352
.7	20	1.3	101	1.9	216	2.5	380
.8	37	1.4	117	2.0	241	—	—

Table well determined.

**ESTIMATED MONTHLY DISCHARGE  
Of Sevier River, near Gunnison, Utah, for 1903.  
(Drainage area, 3,086 square miles.)**

Month,	Discharge in Second-Feet.			Total in Acre-Feet.	Run-Off.	
	Maximum	Minimum	Mean		Sec.-ft. per Sq. mile	Depth in Inches
February 22-23*	296	282	283	22,443	.024	.004
March	360	101	221	13,589	.035	.003
April	168	20	74	4,403	.019	.021
May	158	8	76	4,673	.019	.022
June	216	23	121	7,200	.030	.033
July	47	27	31	1,906	.008	.009
August	29	22	24	1,476	.006	.007
September	29	22	25	1,488	.006	.009
October	35	20	31	1,906	.008	.009
November	71	32	48	2,856	.012	.013
Dec. (12 days)*				107	3,075	.012
The period	366	8	108	57,014	.027	.271

\*River frozen from January 28 to February 21, and December 2-9, 15-19, 23-26, and 30-31.

The observations at this station during 1904 have been made under the direction of G. L. Swendsen, district engineer.

**DISCHARGE MEASUREMENTS  
Of Sevier River, near Gunnison, Utah, in 1904.**

Date.	Hydrographer.	Area of section.	Mean velocity.	Gage height.	Discharge.
January 13	C. Tanner	Square ft.	ft. per sec.	Feet.	Second-ft.
February 10	do	94	2.46	1.00	234
February 10	do	13	2.55	2.22	331
February 10	do	13	2.30	2.22	312
February 10	do	13	2.42	2.22	312
March 16	do	22	.97	.50	21
March 30	W. P. Hardesty	19	.74	.38	14
April 10	R. C. Murphy and C. Tanner	24	1.04	.62	25
June 13	W. Swendsen	60	1.14	1.00	76
August 20	C. Tanner	31	1.20	.72	39
October 20	do	20	1.10	.68	32
December 4	W. Swendsen	68	1.17	1.00	80

**MEAN DAILY GAGE HEIGHT,**  
In feet, of Sevier River, near Gunnison, Utah, for 1904.

Day.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
1	*	2.40	1.00	0.44	0.48	0.78	0.64	0.56	0.68	0.50	0.68	0.96
2		2.32	.94	.44	—	.74	.66	.56	.68	—	.68	.94
3		2.34	.94	.50	—	.70	.60	.56	.68	—	—	1.02
4		2.00	2.30	.84	.50	1.18	.70	.54	.56	.68	—	1.02
5		2.00	2.44	.82	.50	1.10	—	.54	.56	.68	.48	1.02
6		2.00	2.30	.82	.60	1.02	1.00	.56	.56	.68	.76	1.02
7		1.90	2.00	.50	.60	.90	1.14	.74	.56	.64	.46	.78
8		1.76	2.30	.50	.54	.94	1.20	.76	.56	.64	.48	.78
9	*	2.30	.48	.54	—	1.12	1.10	.54	.56	.60	.48	.80
10		2.38	.48	—	—	1.04	1.08	.54	.56	.60	.46	.80
11		2.10	.48	—	—	1.24	1.20	.54	.56	.58	.48	—
12		1.60	1.94	.46	.52	1.20	1.06	—	.58	.58	—	1.06
13		2.02	2.24	.48	.54	1.26	—	.56	.58	.58	.46	.76
14		2.00	2.00	.48	.56	1.24	1.00	.56	.58	.58	.48	.78
15		1.66	1.96	.48	.56	1.30	.90	.56	.58	.58	.48	.78
16		1.60	2.24	.50	.58	1.28	.84	.54	.58	.58	.48	.80
17	*	2.26	.48	.54	1.30	.84	.54	.58	.58	.48	.80	.80
18		2.22	.48	.52	1.34	.84	.50	.58	.58	.48	—	1.06
19		2.12	.48	.50	1.44	.80	.50	.58	.58	.48	—	1.00
20		2.00	.48	.52	1.28	.80	.50	.58	.58	.48	—	1.06
21		1.76	.48	.52	1.34	.72	.50	.50	.56	.60	—	1.06
22		1.70	.48	.52	.98	.72	.50	.50	.66	—	.88	1.06
23		2.00	.46	.50	.88	.70	.50	.68	.50	.60	.80	1.06
24		2.40	1.74	.48	.50	.94	.70	.40	.68	.50	.90	1.06
25		2.32	1.60	.48	.40	.98	.72	.40	.68	.50	.90	1.00
26		2.30	1.40	.48	.46	1.00	.74	.40	.68	.58	.98	1.00
27		2.30	1.20	.28	.46	1.02	.74	.40	.68	.58	—	1.00
28		2.44	1.14	.28	.46	.00	.70	.50	.70	.58	—	1.00
29		2.30	1.00	.30	.46	.02	.72	.52	.74	.58	.98	—
30		2.30	—	.30	.48	.88	—	.56	.74	.56	—	1.00
31		2.32	—	.42	—	.88	—	.56	.74	—	.90	1.00

\*Ice.

†December 9 reading assumed for rest of month on account of ice gorge.  
Highest reading of gorge, 4.0 feet.

## RATING TABLE

For Sevier River, near Gunnison, Utah, from January 1 to December 31, 1904.

Gage height.	Discharge.	Gage height.	Discharge.	Gage height.	Discharge.	Gage height.	Discharge.
Feet.	Sec.-feet.	Feet.	Sec.-feet.	Feet.	Sec.-feet.	Feet.	Sec.-feet.
0.20	8	0.80	40	1.40	152	2.00	200
.30	11	.90	62	1.50	172	2.10	280
.40	10	1.00	77	1.60	191	2.20	308
.50	22	1.10	91	1.70	211	2.30	328
.60	29	1.20	113	1.80	230	2.40	347
.70	38	1.30	133	1.90	250	2.50	367

The above table is applicable only for open-channel conditions. It is based upon 10 discharge measurements made during 1904. It is well defined between gage heights 0.40 foot and 2.20 feet. The table has been extended beyond these limits. Above gage height 1.10 feet the rating curve is a tangent, the difference being 10.5 per tenth.

**ESTIMATED MONTHLY DISCHARGE  
Of Sevier River, near Gunnison, Utah, for 1904.  
(Drainage area, 3,986 square miles.)**

Month.	Discharge in Second-Feet.			Total in Acre-Feet	Run-Off.	
	Maximum	Minimum	Mean.		Sec.-ft. per Sq. mile.	Depth in Inches.
January	355	191	255	15,690	.064	.074
February	355	77	267	15,360	.067	.072
March	77	10	27.4	1,685	.0069	.0080
April	29	16	22.9	1,363	.0057	.0064
May	160	21	92.9	5,712	.028	.027
June	113	36	59.0	3,511	.015	.017
July	45	20	25.7	1,580	.0064	.0074
August	59	26	32.8	2,017	.0082	.0095
September	36	26	29.6	1,701	.0074	.0083
October	36	20	25.7	1,580	.0064	.0074
November	71	36	51.4	3,058	.013	.014
December*				84.3	5,188	.021
The year	355	10	81.1	58,490	.020	.275

\*Ice gorge December 10-31; discharge estimated.

Note.—Discharge estimated for missing gage heights.

**DISCHARGE MEASUREMENTS  
Of Sevier River, near Gunnison, Utah, in 1905.**

Date.	Hydrographer.	Width,	Area of section,	Mean velocity,	Gage height,	Dis- charge.
		Feet.	Square feet.	Ft. per second.	Feet.	Second- feet.
January 10*	C. Tanner	50	123	2.00	2.25	320
February 7*	do	50	120	2.50	2.20	301
April 23	W. G. Swendsen	30	35	1.47	.80	52
June 10	C. S. Jarvis	35	32	1.51	.70	40
July 1	do	30	22	.80	.42	20
August 11	do	20	25	1.17	.53	30

\*Measured at bridge.

**DAILY GAGE HEIGHT**  
In feet, of Sevier River, near Gunnison, Utah, for 1905.

Day.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
1			2.4	1.1	.72	2.8	.4	.5	.7	.86	-----	1.14
2			2.4	1.1	.7	2.86	.4	.5	.7	1.0	1.16	1.3
3			2.44	1.1	.7	2.96	.4	.5	.9	1.0	1.16	1.2
4			2.34	1.1	.72	2.7	.4	.5	.86	1.02	1.16	1.2
5			2.28	1.14	.7	2.46	-----	.5	.7	1.06	1.14	1.14
6		2.3	2.1	1.1	.7	2.38	.4	.5	.7	1.06	1.14	1.16
7		2.2	1.88	1.1	.7	2.36	.4	.54	.74	1.08	1.16	1.16
8		2.2	1.7	1.12	.76	2.24	.42	.54	.74	1.08	1.16	1.18
9		2.16	1.76	-----	.78	2.2	.4	.54	.76	1.1	1.14	1.16
10		2.22	1.96	1.12	.84	1.76	.4	.54	.9	1.14	1.14	-----
11		2.18	1.9	1.12	.96	1.76	.42	.54	.86	1.16	1.12	1.16
12		2.26	1.88	1.06	.98	1.56	.4	.56	.7	1.18	1.12	1.18
13		2.6	1.84	1.0	1.0	1.2	.4	.56	.7	1.18	1.12	1.2
14		3.1	1.8	.9	1.04	1.1	.4	.56	.72	1.2	1.12	1.2
15		2.0	1.76	.9	1.24	.9	.4	.56	.7	1.18	1.14	1.18
16		2.0	-----	.86	1.56	.9	.42	.56	.7	1.14	1.12	-----
17		2.02	1.64	.84	1.58	.8	.42	.56	.7	1.1	1.12	-----
18		2.0	1.6	.78	1.6	.82	.4	.56	.7	1.1	1.1	-----
19		2.25	2.0	1.58	.8	1.66	.82	.4	.56	.7	1.1	-----
20		2.2	2.6	1.62	.8	1.7	.76	.4	.58	.7	1.1	-----
21		2.2	2.12	1.56	.78	1.74	.7	-----	.58	.7	1.12	1.1
22		2.2	2.22	-----	.78	1.76	.56	.4	.58	.7	1.16	1.1
23		2.06	2.26	1.5	-----	1.94	.52	.4	.6	.72	1.16	1.12
24		2.2	2.38	1.4	.9	2.44	.5	.4	.6	.74	1.16	1.12
25		2.22	2.38	1.4	.82	3.25	.46	.4	.6	.74	1.16	1.12
26		2.24	2.38	1.34	.78	3.23	.44	.44	.66	.78	1.14	1.12
27		2.26	2.3	1.24	.78	3.3	.42	.44	.66	.78	1.14	1.14
28		2.22	2.3	-----	.74	3.32	.4	.52	.8	.8	1.16	1.14
29		2.22	-----	1.16	.7	3.22	.4	.52	.74	.82	1.10	1.14
30		2.26	-----	1.1	.7	3.24	.4	.5	.7	.86	1.16	1.14
31		2.24	-----	1.14	-----	2.6	-----	.5	.7	1.18	-----	-----

Note.—River frozen January 1-17 and December 16-31.

**STATION RATING TABLE**  
For Sevier River, near Gunnison, Utah, from January 18 to December 15, 1905.

Gage height,	Discharge,	Gage height,	Discharge,	Gage height,	Discharge,	Gage height,	Discharge,
Feet.	Sec.-feet.	Feet.	Sec.-feet.	Feet.	Sec.-feet.	Feet.	Sec.-feet.
0.40	17	1.20	101	2.00	254	2.80	474
0.50	24	1.30	116	2.10	278	2.90	500
0.00	32	1.40	132	2.20	303	3.00	539
0.70	41	1.50	140	2.30	320	3.10	573
0.80	51	1.60	168	2.40	356	3.20	608
0.00	62	1.70	188	2.50	384	3.30	644
1.00	74	1.80	209	2.60	413	3.40	681
1.10	87	1.90	231	2.70	443		

Note.—The above table is applicable only for open-channel conditions. It is based on six discharge measurements made during 1905. It is well defined between gage heights 0.4 foot and 1 foot, and fairly well defined above 1 foot.

**ESTIMATED MONTHLY DISCHARGE.**  
**Of Sevier River, near Gunnison, Utah, for 1905.**  
(Drainage area, 3,986 square miles.)

Month.	Discharge in Second-Feet.			Total in Acre-Feet.	Run-Off.	
	Maximum	Minimum.	Mean.		Sec.-ft. per Sq. mile.	Depth in Inches.
January 18-31--	319	254	303	17,000	.076	.040
February -----	573	254	318	17,660	.080	.083
March -----	367	87	199	12,240	.050	.058
April -----	92	41	67.0	3,987	.017	.019
May -----	651	41	222	13,650	.056	.065
June -----	525	17	164	9,759	.041	.046
July -----	26	17	18.4	1,131	.0046	.0053
August -----	60	24	32.3	1,986	.0081	.0093
September -----	62	41	46.2	2,749	.012	.013
October -----	101	58	89.3	5,491	.022	.025
November -----	95	87	91.4	5,439	.023	.026
December 1-15--	116	93	98.3	5,850	.025	.014
The period.	651	17	137	96,941	.035	.40

Note.—Discharge interpolated on days where gage heights were missing.

MONTHLY DISCHARGE  
In thousands of acre-feet of Sevier River, near Gunnison, Utah.  
(Drainage area, 3,386 square miles.)

Year.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Total.	Run-Off, Sec. Ft. per Sq. Mi.	Depth in Inches.	
1900																
1901	7.26	6.94	3.44	2.08	7.50	2.44	1.60	1.11	1.32	2.00	2.32	2.80				
1902	9.29	8.28	4.67	3.57	1.23	0.55	1.48	0.71	0.48	2.02	4.98	40.48	0.014	0.185		
1903	*12.00	12.00	12.52	4.40	4.67	0.89	1.05	1.01	0.55	0.83	6.15	38.68	0.014	0.182		
1904	—	15.08	15.36	1.60	1.36	5.71	3.71	1.91	1.48	1.49	1.91	2.86	*9.95	73.94	0.027	0.360
1905	—	*17.00	17.66	12.24	3.99	12.65	9.76	1.13	1.19	2.75	1.58	3.06	5.18	58.49	0.020	0.275
Mean	12.35	12.09	7.13	3.26	6.55	4.76	1.27	1.72	1.50	2.02	2.75	6.32	61.05	0.022	0.288	

\*In tables of monthly discharge for years 1903 and 1905, the record for parts of these months is missing. The discharge for these periods has been estimated and added to this table.

# Manti Creek near Manti, Utah.

DISCHARGE MEASUREMENTS  
Of Manti Creek, near Manti, Utah, in 1900.

Date.	Hydrographer.	Gage height.	Discharge.
		Feet.	Second-feet.
Aug. 2	C. Tanner	1.58	9
Sept. 7	do	1.52	6
Dec. 26	do	1.08	5

DAILY GAGE HEIGHT  
Of Manti Creek, near Manti, Utah, for 1900.

Day.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
1								1.58	1.55	1.55		
2								1.58	1.60			
3								1.60	1.55	1.55		
4								1.75	1.53			
5								1.58		1.55		
6									1.53			
7									1.55	1.55		
8									1.55			
9									1.70			
10									1.60			
11								1.58	1.58			
12								1.55	1.55			
13									1.55			
14									1.53			
15									1.53			
16									1.55			
17								1.55	1.53			
18								1.60	1.55			
19								1.58	1.55			
20									1.58			
21									1.55			
22									1.55			
23								1.58	1.70			
24								1.73	1.08			
25								*	1.05			
26									1.70			
27									1.08			
28									1.60			
29									1.58			
30												
31												

\*Aug. 26-Sept. 2, no readings.

**ESTIMATED MONTHLY DISCHARGE  
Of Manti Creek, near Manti, Utah, for 1900.  
(Drainage area, 31 square miles.)**

Month.	Discharge in Second-Feet.			Total in Acre-Feet.	Run-Off,	
	Maximum.	Minimum.	Mean.		Sec.-ft. per Sq. mile.	Depth in Inches.
August 2-25 ---	17	7	9	533	0.29	0.33
September -----	15	6	9	536	0.29	0.32

# Salina Creek of Salina, Utah.

DISCHARGE MEASUREMENTS  
Of Salina Creek, at Salina, Utah, in 1900.

Date.	Hydrographer.	Gage height.	Discharge.	
			Feet.	Second-feet.
July 2	C. Tanner	1.05		11
July 23	do	1.08		12
September 8	do	1.02		8

DAILY GAGE HEIGHT  
Of Salina Creek, near Salina, Utah, for 1900.

Day.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
1							1.05	1.02	-----	1.10	1.15	1.10
2							1.05	1.02	-----	1.10	1.15	1.10
3							1.20	1.02	-----	1.10	1.15	1.10
4							1.20	1.02	-----	1.10	1.12	1.10
5							1.10	1.02	-----	1.07	1.12	1.10
6							1.08	1.03	-----	1.07	1.12	1.10
7							1.08	1.03	-----	1.07	1.12	1.10
8							1.12	1.03	-----	1.07	1.12	1.15
9							1.12	1.03	1.10	1.07	1.12	1.15
10							1.08	1.03	1.05	1.07	1.10	1.15
11							1.08	1.02	1.05	1.07	1.10	1.15
12							1.05	1.02	1.05	1.07	1.10	1.15
13							1.05	1.02	1.05	1.12	1.10	1.15
14							1.08	1.00	1.05	1.12	1.10	1.15
15							1.08	1.00	1.05	1.12	1.10	1.15
16							1.08	1.00	1.05	1.12	1.10	1.15
17							1.08	1.00	1.05	1.12	1.10	1.15
18							1.05	*	1.05	1.15	1.10	1.15
19							1.05	-----	1.05	1.15	1.10	1.15
20							1.05	-----	1.05	1.15	1.10	1.15
21							1.10	-----	1.05	1.15	1.10	1.10
22							1.08	-----	1.05	1.15	1.10	1.10
23							1.10	-----	1.05	1.15	1.10	1.10
24							1.08	-----	1.12	1.15	1.10	1.10
25							1.08	-----	1.12	1.15	1.10	1.10
26							1.05	-----	1.12	1.15	1.10	1.10
27							1.05	-----	1.15	1.15	1.10	1.10
28							1.05	-----	1.10	1.15	1.10	*
29							1.02	-----	1.10	1.15	1.10	1.20
30							1.02	-----	1.10	1.15	1.10	1.20
31							1.02	-----	1.10	1.15	1.10	1.20

\* Aug. 10-Sept. 9, no record.

† Frozen.

**ESTIMATED MONTHLY DISCHARGE  
Of Salina Creek, near Salina, Utah, for 1900.  
(Drainage area, 255 square miles.)**

Month.	Discharge in Second-Feet.			Total in Acre Feet.	Run-Off.	
	Maximum.	Minimum.	Mean.		Sec.-ft. per Sq. mile.	Depth in Inches.
January	27	15	20	1,205	.077	.089
February	25	15	19	1,080	.076	.070
March	21	14	15	900	.057	.066
April	34	15	23	1,365	.090	.100
July	25	8	12	738	.03	.06
August 1-18	9	7	8	492	.03	.03
September 9-30	18	10	12	714	.05	.06
October	18	11	15	922	.06	.07
November	18	13	14	833	.05	.06
December	25	13	16	984	.06	.07

**DAILY GAGE HEIGHT**  
Of Salina Creek, near Salina, Utah, for 1901.

### San Pitch River near Gunnison, Utah.

San Pitch River, which enters Sevier River from the north, flows throughout its course in a well-defined channel with no overflow. Over the lower portions of the area evaporation and seepage doubtless exceed inflow to the stream. There are small tracts of irrigated land at various point along the river, and a storage reservoir about 10 miles above the gaging station completely controls the flow. The tributaries are few and mostly intermittent. Manti Creek, which enters at a point about 11 miles above the station, drains a barren area and is subject to rapid run-off. Its discharge may vary from 4 to 150 second-feet, but it enters above the reservoir dam and is thus completely controlled before reaching the gaging station.

The station was established June 30, 1900. It is located 4 miles northeast of Gunnison about one-eighth mile west of the Rio Grande Western Railway, west of the second farm-house along the railroad track north of Gunnison station.

The channel is straight for about 100 feet and is slightly curved below the station. Both banks slope gradually and are sufficiently high to prevent overflow. The bed of the stream is composed of sand and gravel, and is smooth and apparently permanent. The velocity is high. Information in regard to winter conditions is indefinite.

Discharge measurements are made by wading at a point near the gage, where a tagged wire is stretched. The initial point for soundings is the west side of the supporting post on the left bank.

The gage, which is read daily by Oliver Peterson, is a vertical staff driven into the stream bed. It is referred to bench marks as follows: (1) The top of a cedar post set about 45.5 feet west from the gage; elevation, 5.96 feet. (2) Top of nail driven into top of stake set about 150 feet S. 84° E. from the initial point; elevation, 10.36 feet. Elevations are above datum of gage.

Information in regard to this station is contained in the following publications of the United States Geological Survey (Ann=Annual Report; WS=Water-Supply Paper):

Description: WS 51, p 425; 66, p 125; 85, p 94; 100, p 150; 133, p 281.

Discharge: WS 51, p 425; 66, p 125; 85, p 94; 100, p 150; 133, p 281.

Discharge, monthly: Ann 22, iv, p 419; WS 75, p 196; 85, p 26; 100, p 152; 133, p 283.

Gage heights, WS 51, p 425; 66, p 125; 85, p 95; 100, p 151; 133, p 282.

Hydrograph: Ann 22, iv, p 419.

Rating tables: WS 52, p 521; 66, p 176; 85, p 95; 100, p 151; 133 p 282.

**DISCHARGE MEASUREMENTS**  
Of San Pitch River, near Gunnison, Utah, in 1900.

Date.	Hydrographer.	Gage height.	Discharge.
		Feet.	Second-feet.
June 30	Caleb Tanner	2.35	88
July 24	do	2.15	58
August 5	do	1.85	18
September 9	do	1.80	15
December 27	do	1.73	12

**DAILY GAGE HEIGHT**  
Of San Pitch River, at Gunnison, for 1900.

Day.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
1							2.35	1.80	1.80	1.82	1.80	1.92
2							2.40	1.81		1.80	1.80	1.80
3							2.30	1.80	1.80	1.90	1.84	1.80
4							2.35	1.80	1.84	1.82	1.84	1.90
5							2.30	1.90	1.90	1.80	1.80	
6								1.90	1.94	1.78	1.84	
7							2.30	1.80	1.80	1.78	1.82	1.90
8							2.25	1.78	1.90	1.80	1.81	1.88
9								1.80	1.90		1.81	1.80
10								1.78	1.78		1.80	
11								1.78	1.78	1.80		
12								1.80	1.70	1.94		1.80
13								1.80	1.88	1.80	1.80	1.81
14								1.78	1.80		1.81	1.80
15								1.80				1.70
16								1.80	1.80			
17							2.25	1.80	1.78		1.84	
18							2.20	1.92	1.80			
19							2.15	1.80	1.78	1.80		
20							2.00	1.80	1.78	1.00		1.70
21								2.00	1.80	1.80		1.08
22								2.10	1.78		1.84	
23								2.10	1.78	1.80		1.70
24								2.18	1.70	1.80		
25								2.18	1.80	1.90	1.84	1.88
26								2.10	1.90	1.84	1.82	1.88
27								2.14	1.78	1.81	1.82	1.80
28								2.14	1.80	1.80	1.81	
29								2.12	1.78	1.90		
30								2.10	1.78	1.82		1.80
31								2.10	1.80		1.84	1.70

**ESTIMATED MONTHLY DISCHARGE  
Of San Pitch River, near Gunnison, Utah, for 1900.  
(Drainage area, 836 square miles.)**

Month.	Discharge in Second-Feet.			Total in Acre Feet.	Run-Off.	
	Maximum.	Minimum.	Mean.		Sec.-ft. per Sq. mile.	Depth in Inches.
July	95	37	67	4,120	0.08	.00
August	27	13	17	1,045	0.02	.02
September	32	13	18	1,071	.02	.02
October	30	14	18	1,107	.02	.02
Nov. (23 days)	23	17	20	1,190	.02	.02
December	27	9	15	922	.02	.02

**DAILY GAGE HEIGHT  
Of San Pitch River, near Gunnison, Utah, for 1901.**

Day.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
1	1.70	1.70	1.80	—	2.50	2.40	2.20	1.82	1.80	1.78	1.78	1.74
2	—	1.70	1.80	—	2.30	—	2.24	1.90	—	—	—	—
3	1.70	1.74	1.76	—	2.30	—	2.20	1.82	1.80	—	—	—
4	1.78	1.74	1.70	—	2.20	2.40	2.18	1.84	1.76	—	—	—
5	1.78	1.20	1.78	—	2.20	2.30	2.20	1.81	1.76	—	—	—
6	1.80	1.76	1.74	—	2.10	—	2.20	1.80	1.70	—	—	—
7	1.82	1.70	1.70	1.70	2.10	—	2.22	1.82	—	—	—	—
8	1.78	1.80	1.74	—	2.30	—	2.20	1.90	—	—	—	—
9	1.70	1.80	1.80	1.70	2.30	—	2.18	1.84	—	—	—	—
10	1.70	1.70	1.76	1.08	2.40	2.30	2.20	1.82	1.70	—	—	—
11	1.74	1.70	1.84	1.70	2.40	2.20	2.18	1.80	—	1.78	—	—
12	1.70	1.08	1.80	1.70	2.50	2.26	2.20	—	—	1.80	—	—
13	1.74	1.70	1.82	1.80	2.50	2.30	—	—	—	1.80	—	—
14	1.70	1.70	1.82	1.70	2.30	—	2.20	—	—	—	—	—
15	—	1.78	1.80	1.80	2.30	—	2.18	1.80	—	—	—	—
16	1.70	1.80	1.80	1.78	2.40	—	2.18	1.82	1.80	—	1.78	—
17	1.08	1.80	1.78	1.80	2.50	2.30	2.12	1.82	1.78	—	1.70	—
18	1.70	1.78	1.70	1.80	2.40	2.20	2.00	1.90	—	—	—	—
19	—	1.84	1.70	1.70	2.50	2.20	1.90	1.80	1.78	1.78	—	—
20	1.70	1.84	1.74	1.70	2.00	2.20	1.88	1.80	1.80	1.80	—	—
21	1.70	1.80	1.74	1.90	2.40	2.30	1.82	—	—	1.78	—	—
22	—	1.80	1.80	1.70	1.90	2.40	—	1.80	—	1.80	—	—
23	—	1.80	1.80	1.70	2.20	2.30	2.30	1.80	1.80	1.78	1.78	—
24	1.70	1.08	1.74	2.30	2.30	2.20	1.82	—	—	1.78	—	1.76
25	—	1.70	2.00	1.70	2.30	2.20	—	1.80	—	1.80	—	1.74
26	1.70	1.00	1.70	2.30	2.40	—	1.82	—	—	1.78	—	—
27	1.74	1.00	1.08	2.28	2.40	—	1.82	—	—	1.84	—	—
28	1.74	1.88	1.70	2.24	2.00	—	1.80	—	—	1.80	—	1.76
29	1.70	—	1.80	2.30	2.60	—	—	—	1.80	1.80	1.74	—
30	1.74	—	1.80	2.30	2.50	2.20	—	2.10	1.80	1.78	1.74	—
31	1.70	—	—	—	2.50	—	1.80	1.00	—	1.78	—	1.74

**ESTIMATED MONTHLY DISCHARGE  
Of San Pitch River, near Gunnison, Utah, for 1901.  
(Drainage area, 836 square miles.)**

Month.	Discharge in Second-Feet.			Total in Acre Feet.	Run-Off.	
	Maximum.	Minimum.	Mean.		Sec.-ft. per Sq. mile.	Depth in Inches.
January -----	15	9	12	738	.014	.016
February -----	37	9	16	889	.019	.020
March -----	21	9	13	774	.016	.018
April 7-30 -----			35	2,083	.042	.127
May -----	125	51	92	5,657	.110	.127
June -----	95	65	77	4,552	.092	.103
July -----	71	15	45	2,767	.054	.062
August -----	25	15	18	1,107	.022	.025
September -----	15	10	14	833	.017	.019
October -----	10	14	14	861	.017	.020
November -----	14	10	13	774	.016	.018
December -----	13	12	12	738	.014	.016
The year -----	125	9	30	21,803	.036	.491

During 1902 the following measurements were made by Caleb Tanner:

May 17: Gage height, 2.28 feet; discharge, 81 second-feet.

August 16: Gage height, 1.70 feet; discharge, 15 second-feet.

**DAILY GAGE HEIGHT**

In feet, of San Pitch River, near Gunnison, Utah, for 1902.

Day.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
1-----	1.74	1.74	1.74	1.80	2.10	2.30	2.00	1.70	1.75	1.75	1.77	1.70
2-----	1.74	1.74	1.74	1.80	2.50	2.30	2.08	1.70	1.75	1.75	1.77	1.70
3-----	1.74	1.74	1.70	1.80	2.60	2.20	2.00	1.70	1.75	1.76	1.70	1.80
4-----	1.74	1.74	1.70	1.80	2.50	2.20	2.00	1.70	1.75	1.75	1.70	1.80
5-----	1.74	1.74	1.70	1.80	2.70	2.20	2.00	1.70	1.75	1.75	1.70	1.80
6-----	1.74	1.70	1.70	1.70	2.70	2.20	2.00	1.80	1.75	1.75	1.70	1.75
7-----	1.70	1.70	1.70	1.70	2.70	2.20	2.00	1.80	1.75	1.75	1.70	1.75
8-----	1.70	1.70	1.70	1.00	2.05	2.20	2.00	1.80	1.75	1.75	1.70	1.70
9-----	1.70	1.70	1.70	1.87	2.60	2.10	2.00	1.80	1.75	1.75	1.70	1.70
10-----	1.70	1.70	1.70	1.85	2.65	2.10	2.00	1.80	1.75	1.75	1.70	1.70
11-----	1.70	1.70	1.70	1.80	2.70	2.20	2.00	1.80	1.75	1.76	1.70	1.70
12-----	1.70	1.70	1.70	1.00	2.75	2.20	2.00	1.75	1.75	1.75	1.70	1.70
13-----	1.70	1.70	1.70	1.00	2.70	2.10	2.00	1.80	1.75	1.75	1.70	1.70
14-----	1.70	1.70	1.70	1.00	2.80	2.10	2.00	1.80	1.75	1.75	1.70	1.70
15-----	1.70	1.70	1.70	1.00	2.40	2.10	2.00	1.80	1.75	1.75	1.70	1.65
16-----	1.70	1.70	1.70	1.00	2.40	2.15	2.00	1.80	1.75	1.75	1.70	1.65
17-----	1.70	1.70	1.70	1.07	2.30	2.15	2.00	1.70	1.75	1.75	1.70	1.65
18-----	1.70	1.70	1.70	2.00	2.30	2.15	2.10	1.70	1.75	1.75	1.70	1.65
19-----	1.70	1.70	1.70	2.20	2.30	2.10	2.10	1.70	1.75	1.75	1.70	1.70
20-----	1.70	1.70	1.70	2.10	2.20	2.10	2.10	1.80	1.75	1.75	1.70	1.70
21-----	1.70	1.70	1.70	2.20	2.20	2.00	2.00	1.80	1.85	1.75	1.70	1.70
22-----	1.70	1.74	1.70	2.10	2.10	2.20	2.00	1.80	1.80	1.75	1.70	1.70
23-----	1.70	1.74	1.70	2.00	2.10	2.10	2.00	1.80	1.80	1.75	1.70	1.70
24-----	1.70	1.74	1.70	2.20	2.20	2.12	1.90	1.80	1.75	1.75	1.70	1.70
25-----	1.70	1.74	1.70	2.20	2.20	2.00	1.90	1.80	1.75	1.75	1.70	1.70
26-----	1.70	1.74	1.70	2.30	2.30	2.00	1.70	1.80	1.75	1.75	1.70	1.70
27-----	1.70	1.74	1.70	2.30	2.30	2.00	1.70	1.80	1.75	1.77	1.70	1.70
28-----	1.70	1.74	1.70	2.30	2.40	2.10	1.70	1.80	1.75	1.77	1.70	1.70
29-----	1.70	1.74	1.70	2.30	2.30	2.10	1.70	1.80	1.75	1.77	1.70	1.70
30-----	1.70	1.74	1.70	2.10	2.30	2.10	1.70	1.80	1.75	1.77	1.70	1.70
31-----	1.70	1.74	1.70	2.30	2.30	2.10	1.70	1.75	1.77	1.77	1.70	1.70

**RATING TABLE**  
For San Pitch River, near Gunnison, Utah, for 1902.

Gage height.	Discharge.	Gage height.	Discharge.	Gage height.	Discharge.	Gage height.	Discharge.
Feet.	Sec.-feet.	Feet.	Sec.-feet.	Feet.	Sec.-feet.	Feet.	Sec.-feet.
1.70	10	1.92	27	2.14	57	2.36	89
1.72	11	1.94	30	2.16	59	2.38	92
1.74	12	1.96	32	2.18	62	2.40	95
1.76	13	1.98	34	2.20	65	2.42	98
1.78	14	2.00	37	2.22	68	2.44	101
1.80	15	2.02	40	2.24	71	2.46	104
1.82	17	2.04	43	2.26	74	2.48	107
1.84	19	2.06	45	2.28	77	2.50	110
1.86	21	2.08	48	2.30	80		
1.88	23	2.10	51	2.32	83		
1.90	25	2.12	54	2.34	86		

ESTIMATED MONTHLY DISCHARGE  
of San Pitch River, near Gunnison, Utah, for 1902.  
(Drainage area, 836 square miles.)

Month.	Discharge in Second-Feet.			Total in Acre Feet.	Run-Off.	
	Maximum.	Minimum.	Mean.		Sec.-ft. per Sq. mile.	Depth in Inches.
January -----	13	12	13	700	.02	.02
February -----	13	12	13	722	.02	.02
March -----	13	12	13	700	.02	.02
April -----	05	10	40	2,880	.05	.06
May -----	155	51	101	6,210	.12	.14
June -----	80	37	54	3,213	.06	.07
July -----	51	10	33	2,020	.04	.05
August -----	15	10	14	801	.02	.02
September -----	21	13	14	833	.02	.02
October -----	15	13	13	700	.02	.02
November -----	15	10	10	505	.01	.01
December -----	15	7	10	615	.01	.01
The year --	155	7	27	10,855	.03	.10

The observations at this station during 1903 have been made under the direction of G. L. Swendson, district hydrographer.

**DISCHARGE MEASUREMENTS**  
Of San Pitch River, near Gunnison, Utah, in 1903.

Date.	Hydrographer.	Gage height.	Discharge.
		Feet.	Second-feet.
January 24 -----	Caleb Tanner-----	1.72	11
March 16 -----	do-----	1.70	13
April 12 -----	do-----	1.70	15
June 27 -----	do-----	2.18	02
July 31 -----	do-----	2.18	07
November 11 -----	do-----	1.73	10

## DAILY GAGE HEIGHT

In feet, of San Pitch River, near Gunnison, Utah, for 1903.

Day.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
1	1.70	1.71	1.66	1.92	2.28	2.44	2.18	2.18	1.86	1.88	1.76	1.80
2	1.70	1.70	1.70	1.92	2.34	2.40	2.16	2.16	1.88	2.00	1.74	1.78
3	1.70	1.70	1.70	1.86	2.48	2.40	2.20	2.14	1.88	1.96	1.76	1.80
4	1.70	1.62	1.72	1.84	2.36	2.42	2.20	2.14	1.88	1.90	1.76	1.74
5	1.70	1.63	1.72	1.76	2.34	2.52	2.20	2.00	1.86	1.90	1.76	1.70
6	1.70	1.64	1.70	1.76	2.34	2.52	2.20	1.92	1.88	1.90	1.76	1.76
7	1.70	1.63	1.66	1.76	2.42	2.40	2.18	1.94	1.88	1.90	1.76	1.76
8	1.70	1.64	1.70	1.78	2.44	2.36	2.18	1.90	1.88	1.90	1.76	1.74
9	1.70	1.70	1.72	1.80	2.44	2.34	2.20	1.90	1.86	1.00	1.76	1.76
10	1.70	1.63	1.70	1.82	2.66	2.52	2.22	1.90	1.88	1.88	1.76	1.76
11	1.70	1.71	1.70	1.82	2.66	2.56	2.22	1.90	1.86	1.86	1.78	1.76
12	1.70	1.71	1.70	1.88	2.68	2.54	2.22	1.88	1.86	1.80	1.78	1.76
13	1.70	1.63	1.74	1.72	2.68	2.54	2.16	1.88	1.88	1.80	1.76	1.78
14	1.70	1.62	1.74	1.76	2.66	2.54	2.18	1.88	1.88	1.80	1.76	1.78
15	1.70	1.62	1.76	1.78	2.68	2.52	2.16	1.88	1.88	1.80	1.73	1.78
16	1.70	1.62	1.78	1.78	2.68	2.40	2.18	1.90	1.88	1.80	1.73	1.78
17	1.70	1.64	1.74	1.78	2.68	2.40	2.16	1.90	1.88	1.80	1.72	1.78
18	1.70	1.63	1.70	1.80	2.48	2.40	2.16	1.90	1.88	1.80	1.72	1.78
19	1.70	1.62	1.74	1.76	2.48	2.40	2.18	1.88	1.88	1.80	1.73	1.70
20	1.70	1.63	1.74	1.76	2.56	2.30	2.18	1.88	1.88	1.80	1.80	1.78
21	1.70	1.63	1.70	1.78	2.58	2.30	2.18	1.88	1.88	1.82	1.80	1.78
22	1.70	*1.70	1.74	1.78	2.58	2.34	2.16	1.88	1.88	1.82	1.78	1.70
23	1.70	1.70	1.76	1.78	2.58	2.34	2.18	1.88	1.88	1.82	1.78	1.78
24	1.72	1.72	1.70	1.80	2.48	2.20	2.20	1.88	1.86	1.82	1.80	1.78
25	1.74	1.72	1.74	2.28	2.52	2.20	2.18	1.98	1.94	1.80	1.80	1.78
26	1.72	1.72	1.70	2.28	2.52	2.20	2.20	1.88	1.84	1.78	1.78	1.68
27	1.74	1.68	1.70	2.28	2.52	2.18	2.20	1.88	1.84	1.78	1.70	1.78
28	*	1.72	1.70	2.20	2.52	2.18	2.20	1.88	1.84	1.78	1.78	1.78
29	*	-----	1.70	2.28	2.52	2.20	2.18	1.88	1.84	1.78	1.80	1.80
30	*	-----	1.78	2.28	2.56	2.18	2.18	1.88	1.84	1.78	1.80	1.80
31	*	-----	1.80	2.72	2.72	2.18	1.80	1.78	1.78	1.78	1.80	1.80

\*River frozen from January 28 to February 22.

RATING TABLE  
For San Pitch River, near Gunnison, Utah, for 1903.

Gage height.	Discharge.						
Feet.	Sec.-feet.	Feet.	Sec.-feet.	Feet.	Sec.-feet.	Feet.	Sec.-feet.
1.7	0	2.0	30	2.3	82	2.0	130
1.8	18	2.1	52	2.4	100	2.7	164
1.0	28	2.2	60	2.5	118	2.8	172

**ESTIMATED MONTHLY DISCHARGE  
Of San Pitch River, near Gunnison, Utah, for 1903.  
(Drainage area, 836 square miles.)**

Month.	Discharge in Second-Feet.			Total in Acre Feet.	Run-Off.	
	Maximum.	Minimum.	Mean.		Sec.-ft. per Sq. mile.	Depth in Inches.
January* .....	13	9	10	615	.012	.014
February* .....	11	3	6	333	.007	.007
March .....	18	5	12	738	.014	.016
April .....	79	11	30	1,785	.036	.040
May .....	158	79	123	7,563	.147	.169
June .....	129	63	95	5,653	.114	.127
July .....	69	60	64	3,935	.077	.080
August .....	63	24	31	1,906	.037	.043
September .....	26	22	25	1,488	.030	.033
October .....	39	16	22	1,353	.026	.030
November .....	18	11	15	893	.018	.020
December .....	18	7	15	922	.018	.021
The year .....	158	3	37	27,184	.045	.600

\*Ice, January 28 to February 22.

The observations at this station during 1904 have been made under the direction of G. L. Swendsen, district engineer.

**DISCHARGE MEASUREMENTS  
Of San Pitch River, near Gunnison, Utah, in 1904.**

Date.	Hydrographer.	Area of section.	Mean velocity.	Gage height.	Discharge.
		Square ft.	Ft. per sec.	Feet.	Second-ft.
Feb. 16 .....	C. Tanner .....	21	0.83	1.82	18
March 10 .....	do .....	10	.04	1.75	12
March 31 .....	W. P. Hardesty .....	18	.54	1.68	10
April 10 .....	E. C. Murphy and C. Tanner .....	27	2.22	2.13	60
June 14 .....	W. Swendsen .....	41	1.70	2.25	73
September 1 .....	C. Tanner .....	22	.04	1.87	21
December 5 .....	W. Swendsen .....	17	.42	1.02	7

**MEAN DAILY GAGE HEIGHT**  
In feet, of San Pitch River, near Gunnison, Utah, for 1904.

Day.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
1-----	1.78	1.80	1.74	1.70	2.26	2.42	2.32	2.34	1.88	1.84	1.86	1.70
2-----	1.76	1.80	1.72	1.68	2.24	2.40	2.32	2.34	1.86	1.84	1.86	1.70
3-----	1.78	1.80	1.70	1.68	2.32	2.34	2.32	2.30	1.86	1.84	1.84	1.70
4-----	1.78	1.80	1.70	1.68	2.30	2.32	2.30	2.30	1.86	1.82	1.86	1.70
5-----	1.80	1.80	1.70	1.68	2.36	2.30	2.38	2.30	1.84	1.82	1.84	1.70
6-----	1.80	1.78	1.72	1.68	2.30	2.28	2.40	2.30	1.84	1.80	1.82	1.62
7-----	1.78	1.78	1.72	1.62	2.38	2.26	2.40	2.30	1.84	1.82	1.82	1.62
8-----	1.78	1.80	1.72	1.62	2.30	2.32	2.44	2.28	1.84	1.82	1.82	1.70
9-----	1.70	1.78	1.70	1.64	2.24	2.32	2.40	2.26	1.84	1.84	1.82	1.74
10-----	1.78	1.76	1.70	1.64	2.24	2.30	2.44	2.24	1.82	1.82	1.91	1.64
11-----	1.78	1.78	1.70	1.64	2.40	2.24	2.44	2.24	1.82	1.80	1.79	1.74
12-----	1.80	1.78	1.70	1.68	2.70	2.28	2.44	2.22	1.82	1.82	1.70	1.72
13-----	1.78	1.78	1.70	1.80	2.56	2.26	2.44	2.20	1.82	1.84	1.80	1.71
14-----	1.80	1.78	1.70	1.82	2.06	2.26	2.46	2.14	1.82	1.82	1.83	1.71
15-----	1.78	1.82	1.74	1.88	2.52	2.26	2.48	2.14	1.82	1.84	1.78	1.62
16-----	1.70	1.78	1.74	1.88	2.96	2.26	2.46	2.13	1.82	1.84	1.78	1.60
17-----	1.78	1.78	1.74	1.90	2.82	2.26	2.44	1.90	1.82	1.84	1.78	1.73
18-----	1.78	1.80	1.74	1.90	3.10	2.26	2.42	1.90	1.82	1.84	1.80	1.72
19-----	1.78	1.82	1.74	2.14	2.74	2.24	2.40	1.88	1.80	1.84	1.80	1.64
20-----	1.78	1.72	1.70	2.18	2.58	2.20	2.42	1.88	1.80	1.84	1.74	1.73
21-----	1.80	1.78	1.74	2.14	2.42	2.20	2.42	1.88	1.80	1.84	1.73	1.73
22-----	1.78	1.80	1.68	2.10	2.44	2.20	2.42	1.80	1.80	1.80	1.72	1.73
23-----	1.72	1.80	1.70	2.10	2.82	2.26	2.40	1.84	1.80	1.80	1.73	1.73
24-----	1.78	1.80	1.70	2.10	3.10	2.20	2.40	1.84	1.80	1.86	1.60	1.74
25-----	1.80	1.78	1.70	2.10	2.90	2.24	2.40	1.84	1.80	1.80	1.60	1.80
26-----	1.80	1.70	1.70	2.10	2.00	2.24	2.40	1.88	1.82	1.80	1.60	1.60
27-----	1.80	1.76	1.70	2.24	2.08	2.28	2.34	1.80	1.82	1.80	1.60	1.61
28-----	1.70	1.76	1.70	2.24	2.04	2.20	2.34	1.90	1.81	1.80	1.61	1.61
29-----	1.80	1.70	1.80	2.24	2.58	2.30	2.40	1.84	1.84	1.86	1.61	1.64
30-----	1.78	-----	1.70	2.22	2.54	2.32	2.36	1.88	1.80	1.80	1.61	1.70
31-----	1.80	-----	1.68	-----	2.30	-----	2.30	1.88	-----	1.80	-----	1.72

## RATING TABLE

For San Pitch River, near Gunnison, Utah, from January 1 to December 31, 1904.

Gage height,	Discharge,						
Feet.	Sec. feet.						
1.00	6	2.00	33	2.40	110	2.80	108
1.70	10	2.10	47	2.50	132	2.90	220
1.80	16	2.20	60	2.00	161	3.00	242
1.00	23	2.30	89	2.70	170		

The above table is applicable only for open-channel conditions. It is based upon 7 discharge measurements made during 1904. It is well defined between gage heights 1.00 feet and 2.30 feet. The table has been extended beyond those limits. Above gage height 2.20 feet the rating curve is a tangent, the difference being 22 per tenth.

**ESTIMATED MONTHLY DISCHARGE  
Of San Pitch River, near Gunnison, Utah, for 1904.  
(Drainage area, 836 square miles.)**

Month.	Discharge in Second-Feet.			Total in Acre Feet	Run-Off.	
	Maximum.	Minimum.	Mean.		Sec.-ft. per Sq. mile.	Depth in Inches.
January	16	10	14.8	910	.018	.021
February	17	14	15.2	874	.018	.019
March	12	9	10.7	638	.013	.015
April	75	7	31.6	1,880	.038	.042
May	264	75	147	9,030	.176	.203
June	114	66	83.5	4,960	.100	.112
July	128	88	111	6,825	.133	.153
August	97	19	50.4	3,090	.060	.060
September	22	16	17.8	1,050	.021	.023
October	20	16	18.7	1,150	.022	.025
November	24	6	14.2	845	.017	.019
December	16	6	9.0	600	.012	.014
The year	204	0	43.7	31,020	.052	.715

**DISCHARGE MEASUREMENTS  
Of San Pitch River, near Gunnison, Utah, in 1905.**

Date.	Hydrographer.	Width.	Area of section.	Mean velocity.	Gage height.	Dis- charge.
		Feet.	Square feet.	Ft. per second.	Feet.	Second- feet.
January 18	C. Tanner	23	20	0.00	1.70	12
June 10	C. S. Jarvis	31	40	2.02	2.40	116
July 1	do	20	30	2.03	2.40	90
August 12	do	20	40	2.88	2.40	114

**DAILY GAGE HEIGHT**  
In feet, of San Pitch River, near Gunnison, Utah, for 1905.

Day.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
1-----	1.78	1.78	1.8	1.76	2.41	3.0	2.44	2.54	2.0	2.08	1.96	1.9
2-----	1.78	1.9	1.78	1.78	2.4	2.9	2.56	2.5	2.06	2.04	1.96	1.9
3-----	1.78	1.9	1.78	1.78	2.3	2.76	2.54	2.52	2.04	2.04	2.0	1.9
4-----	1.78	1.9	1.76	1.78	2.3	2.8	2.54	2.5	2.06	2.02	2.0	1.9
5-----	1.8	1.88	1.76	1.78	2.3	3.1	2.5	2.5	2.08	2.02	1.98	1.9
6-----	1.8	1.88	1.76	1.78	2.36	2.82	2.58	2.5	2.08	2.02	1.96	1.92
7-----	1.8	1.86	1.74	1.8	2.3	2.88	2.6	2.5	2.02	2.0	1.96	1.9
8-----	1.78	1.84	1.7	1.8	2.32	2.9	2.68	2.5	2.04	2.0	1.96	1.88
9-----	1.78	1.8	1.7	1.8	2.5	2.88	2.66	2.5	2.02	2.0	1.98	1.88
10-----	1.78	1.74	1.68	1.84	2.5	2.86	2.64	2.5	2.02	2.0	1.96	1.88
11-----	1.8	1.74	1.68	1.8	2.5	3.0	2.66	2.5	2.04	1.94	1.92	1.88
12-----	1.8	1.72	1.7	1.8	2.5	3.14	2.64	2.56	2.02	1.94	1.92	1.88
13-----	1.73	1.7	1.72	1.8	2.52	2.88	2.64	2.46	2.0	1.94	1.92	1.9
14-----	1.78	1.7	1.73	1.8	2.6	2.9	2.6	2.44	2.06	1.94	1.92	1.9
15-----	1.76	1.7	1.78	1.8	2.6	2.88	2.64	2.44	2.06	1.94	1.92	1.9
16-----	1.78	1.68	1.78	1.8	2.78	2.8	2.64	2.46	2.04	1.92	1.92	1.9
17-----	1.78	1.68	1.78	1.82	2.74	2.7	2.6	2.42	2.03	1.94	1.92	1.92
18-----	1.76	1.68	1.78	1.84	2.52	2.78	2.6	2.4	2.02	1.94	1.94	1.92
19-----	1.78	1.68	1.78	1.84	2.8	2.6	2.6	2.36	2.02	1.94	1.94	1.94
20-----	1.76	1.68	1.8	1.84	2.34	2.52	2.6	2.36	2.02	1.96	1.96	1.96
21-----	1.74	1.68	1.8	1.84	2.54	2.4	2.6	2.36	2.02	1.96	2.0	1.96
22-----	1.74	1.78	1.8	1.8	3.24	2.5	2.6	2.36	2.02	1.96	2.0	1.96
23-----	1.74	1.72	1.78	1.82	2.8	2.42	2.58	2.36	2.02	1.96	1.88	1.96
24-----	1.74	1.74	1.78	1.88	2.78	2.44	2.54	2.36	2.0	1.96	1.88	1.9
25-----	1.74	1.78	1.78	1.8	2.7	2.38	2.54	2.36	2.0	1.96	1.88	1.86
26-----	1.74	1.78	1.00	1.0	2.0	2.34	2.54	2.3	2.0	1.96	1.0	1.86
27-----	1.74	1.78	1.00	2.0	2.5	2.42	2.54	2.24	2.0	1.96	1.02	1.86
28-----	1.70	1.8	1.68	2.34	2.6	2.4	2.54	2.22	1.96	1.96	1.0	1.86
29-----	1.74	-----	1.00	2.34	2.4	2.42	2.56	2.15	2.3	1.96	1.0	1.86
30-----	1.74	-----	1.68	2.30	2.32	2.42	2.60	2.30	2.08	1.96	1.0	1.86
31-----	1.74	-----	1.73	-----	2.6	-----	2.56	2.2	-----	1.96	-----	1.86

## STATION RATING TABLE

For San Pitch River, near Gunnison, Utah, from January 1 to December 31, 1905.

Gage height.	Discharge.						
Feet.	Sec.-feet.	Feet.	Sec.-feet.	Feet.	Sec.-feet.	Feet.	Sec.-feet.
1.70	10	2.10	40	2.60	123	2.00	227
1.80	15	2.20	64	2.60	140	2.00	268
1.90	24	2.30	82	2.70	171	2.10	290
2.00	35	2.40	102	2.80	198	2.20	324

The above table is applicable only for open-channel conditions. It is based on discharge measurements made during 1902-1905. It is well defined between gage heights 1.05 feet and 2.5 feet.

**ESTIMATED MONTHLY DISCHARGE**  
**Of San Pitch River, near Gunnison, Utah, for 1905.**  
**(Drainage area, 836 square miles.)**

Month.	Discharge in Second-Feet.			Total in Acre-Feet.	Run-Off.	
	Maximum.	Minimum.	Mean.		Sec.-ft. per Sq. mile.	Depth in Inches.
January	15	11	13.3	818	0.016	0.018
February	24	9	14.1	783	.017	.018
March	15	8	12.1	744	.014	.016
April	94	13	24.2	1,440	.020	.032
May	338	82	136	8,362	.163	.188
June	304	90	170	10,650	.214	.239
July	166	110	143	8,793	.171	.197
August	720	64	126	7,747	.151	.174
September	82	30	40.5	2,410	.048	.054
October	46	26	32.0	1,963	.038	.044
November	35	22	28.1	1,672	.034	.038
December	30	20	23.9	1,470	.029	.033
The year	338	8	64.3	40,860	.077	1.05

Note.—Open-channel curve assumed to apply throughout the year as the stream is known to freeze but slightly at this station.

MONTHLY DISCHARGE.  
In thousands of acre-feet, of San Pitch River, near Gunnison, Utah.  
(Drainage area, 836 square miles.)

Year.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Total.	Sec. Ft. per Sq. Mi.	Depth In Inches.	Run-Off.
1900																
1901	0.74	0.89	0.77	2.08	5.66	4.12	1.05	1.07	1.11	1.20	0.92					
1902	0.59	0.72	0.80	2.38	6.21	2.77	1.11	0.83	0.86	0.77	0.74				0.04	0.49
1903	0.62	0.33	0.74	1.79	7.56	5.65	2.03	0.86	0.83	0.80	0.60	0.62			19.56	0.03
1904	0.91	0.57	0.66	1.88	9.04	4.97	3.94	1.91	1.49	1.35	0.89	0.92			27.18	0.05
1905	0.52	0.75	1.74	1.44	8.36	10.65	8.79	7.75	2.41	1.97	1.67	1.47	0.61		31.92	0.05
Mean	0.78	0.72	0.74	1.91	7.37	5.91	4.75	2.63	1.28	1.21	1.00	0.88	46.86	0.08	1.05	
													29.52	0.05	0.67	

**PRECIPITATION**  
At Mt. Pleasant, in drainage basin of San Pitch River.

Year.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.	Ann.
1890 -----	2.00	3.46	2.30	0.00	0.53	0.26	0.90	0.52	0.05	0.88	0.41	1.57	12.88
1891 -----	1.62	2.81	0.50	0.00	2.33	1.12	1.60	1.60	-----	-----	-----	-----	-----
1892 -----	Mis sing.												
1893 -----	Mis sing.												
1894 -----	*1.15	*1.65	1.70	0.51	0.34	0.80	0.08	1.40	2.10	0.10	0.00	1.86	10.69
1895 -----	1.90	1.70	2.00	0.08	1.20	0.00	0.11	1.22	0.75	1.52	1.00	1.00	11.38
1896 -----	0.31	0.40	0.93	1.36	1.09	*0.45	2.69	0.87	0.58	0.46	1.75	0.20	11.09
1897 -----	1.30	3.10	2.82	0.10	0.58	0.39	0.50	0.05	2.66	2.30	0.75	1.90	11.54
1898 -----	0.70	0.70	1.50	1.15	3.59	0.52	0.30	0.56	0.00	0.20	0.60	0.50	10.41
1899 -----	1.40	3.60	2.20	0.57	1.02	0.99	0.70	1.24	0.00	1.80	0.88	2.10	16.65
1900 -----	0.36	0.60	0.10	2.56	0.32	0.00	0.00	0.16	1.78	0.59	1.56	0.00	8.03
1901 -----	0.56	2.10	2.37	0.13	0.58	0.29	0.19	1.64	0.16	1.32	0.67	1.14	11.21
1902 -----	1.30	1.28	1.00	1.91	0.27	0.00	0.38	*0.74	0.44	*0.78	*0.82	1.32	10.39
1903 -----	1.24	1.10	1.40	1.41	1.40	0.59	0.56	0.00	1.57	0.58	0.20	0.20	10.34
1904 -----	1.10	1.71	2.20	1.12	2.11	0.76	1.12	0.44	0.36	0.88	0.00	1.90	13.70
1905 -----	0.80	1.03	1.76	1.47	1.25	0.00	0.17	*0.74	1.61	0.00	1.15	1.10	11.98
1906 -----	1.53	1.50	*1.64	*0.88	*1.20	0.48	0.00	1.87	1.24	0.40	1.20	1.28	14.18
Mean -----	1.15	1.65	1.64	0.88	1.20	0.45	0.69	0.74	0.95	0.78	0.85	1.15	12.10

\*Missing; mean values inserted.

**PRECIPITATION**  
At Mantl, in drainage basin of San Pitch River.

Year.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.	Ann.
1894 -----	1.20	-----	-----	0.60	0.00	0.15	0.28	0.17	1.01	0.20	-----	1.60	-----
1895 -----	2.00	1.10	1.70	0.07	0.00	0.07	0.85	0.70	0.40	0.12	1.25	0.70	9.02
1896 -----	0.16	0.10	0.00	0.05	0.10	0.00	1.00	0.43	0.20	0.04	0.30	0.30	5.52
1897 -----	2.00	2.10	2.05	0.10	0.00	0.18	0.28	-----	2.85	-----	-----	-----	-----
1898 -----	Mis sing.												
1899 -----	1.00	2.00	-----	-----	-----	1.02	1.13	0.00	2.38	0.31	1.30	-----	-----
1900 -----	0.01	0.25	0.10	-----	-----	0.00	0.00	-----	-----	0.00	0.80	0.00	-----
1901 -----	0.02	2.50	1.00	0.80	1.00	0.15	0.22	1.23	0.08	1.05	0.50	0.55	0.10
1902 -----	0.52	0.00	1.50	1.08	0.40	0.01	0.20	0.00	0.83	0.40	1.38	0.86	8.20
1903 -----	0.73	1.18	1.10	1.22	2.20	0.28	0.53	0.11	0.98	1.21	0.20	0.40	10.20
1904 -----	1.10	1.13	1.71	0.03	2.03	0.40	0.01	0.37	0.48	0.04	0.00	1.50	11.20
1905 -----	0.85	3.42	1.00	1.84	2.26	0.05	0.00	0.02	3.00	0.54	2.00	1.10	17.03
1906 -----	2.48	0.01	2.82	3.37	1.00	0.30	0.45	1.61	1.52	0.00	1.73	1.63	18.47
Mean -----	1.20	1.51	1.40	1.07	1.10	0.16	0.51	0.00	1.11	0.73	0.05	0.00	11.33

### Sevier River at Leamington, Utah.

This station was located at the foot of a narrow gorge through which the river winds its way to Sevier Lake. It was established in August, 1889, by T. M. Bannon.

Along the upper part of the river, south of and above this point, are many irrigating canals, diverting at times the entire flow of the stream. A small amount returns, however, as seepage or from the drainage area below Sevier valley to maintain a constant flow at Leamington. At times there is also a large flood flow, surplus from the canals. Below this point are canals irrigating lands in the vicinity of Deseret, Oasis, and other settlements. There are, northeasterly from Sevier Lake, enormous areas of land upon which water is needed, the extent being so great that even if the total flow of Sevier River at this point were controlled by storage, only a small part of the land could be supplied.

The measurements at this point, therefore, have an especial value in determining the possibility of future development in this broad valley.

The record was discontinued at the end of 1893.

**ESTIMATED MONTHLY DISCHARGE  
Of Sevier River, near Leamington, Utah, for 1889.  
(Drainage area, 5,595 square miles.)**

Month.	Discharge in Second-Feet.			Total in Acre-Feet.	Run-Off.	
	Maximum	Minimum.	Mean.		Sec.-ft. per Sq. mile.	Depth in Inches.
January -----	60	40	48	2,952	.008	.01
February -----	80	48	53	3,153	.009	.01
March -----	160	48	111	6,826	.019	.02
April -----	444	210	274	16,303	.049	.05
May -----	526	280	395	24,292	.071	.08

**ESTIMATED MONTHLY DISCHARGE.  
Of Sevier River, near Leamington, Utah, for 1890.  
(Drainage area, 5,595 square miles.)**

Month.	Discharge in Second-Feet.			Total in Acre-Feet.	Run-Off.	
	Maximum	Minimum.	Mean.		Sec.-ft. per Sq. mile.	Depth in Inches.
January -----	1,058	280	625	38,437	.11	.13
February -----	1,140	567	713	39,571	.13	.13
March -----	690	567	630	38,745	.11	
April -----	976	608	726	43,197	.13	.14
May -----	2,329	976	1,705	104,837	.31	.35
June -----	2,206	640	1,250	74,375	.22	.25
July -----	640	185	346	21,270	.06	.07
August -----	185	150	153	9,400	.03	.03
September -----	185	150	157	9,342	.03	.03
October -----	362	185	301	10,005	.06	.06
November -----	403	321	373	22,194	.07	.07
December -----	640	403	500	31,304	.00	.10
The year --	2,329	150	625	451,775	.11	1.40

**ESTIMATED MONTHLY DISCHARGE.  
Of Sevier River, near Leamington, Utah, for 1891.  
(Drainage area, 5,595 square miles.)**

Month.	Discharge in Second-Feet.			Total in Acre-Feet.	Run-Off.	
	Maximum	Minimum.	Mean.		Sec.-ft. per Sq. mile.	Depth in Inches.
January -----	772	610	735	45,202	.13	.15
February -----	772	772	772	42,840	.14	.14
March -----	772	620	618	38,007	.11	.13
April -----	608	520	503	20,028	.00	.10
May -----	1,380	608	1,114	68,511	.20	.23
June -----	1,140	567	652	50,644	.17	.19
July -----	620	140	207	18,203	.05	.00
August -----	245	140	105	11,002	.03	.04
September -----	185	100	175	10,412	.03	.03
October -----	210	185	202	12,423	.04	.04
November -----	403	210	312	18,564	.06	.06
December -----	813	403	551	33,890	.10	.11
The year --	1,380	140	635	380,680	.10	1.20

**ESTIMATED MONTHLY DISCHARGE.**  
**Of Sevier River, near Leamington, Utah, for 1892.**  
(Drainage area, 5,595 square miles.)

Month.	Discharge in Second-Feet.			Total in Acre-Feet.	Run-Off.	
	Maximum	Minimum	Mean.		Sec.-ft. per Sq. mile.	Depth in Inches.
January	1,058	813	1,016	63,485	0.18	0.21
February	1,017	895	931	53,532	.17	.18
March	854	608	738	45,387	.13	.15
April	567	100	232	13,804	.04	.05
May	1,017	80	250	15,375	.04	.05
June	1,222	210	718	42,721	.13	.14
July	210	48	88	5,412	.02	.02
August	80	48	53	3,259	.01	.01
September	.00	48	49	2,015	.01	.01
October	80	48	53	3,259	.01	.01
November	120	100	117	6,061	.02	.02
December	976	140	470	35,055	.10	.12
The year	1,222	48	401	201,165	.07	0.07

**DAILY GAGE HEIGHT**  
**Of Sevier River, at Leamington, Utah, for 1893.**

Day.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
1	4.80	5.00	3.00	4.60	3.10	4.80	2.20	2.00	3.30	2.00	2.40	2.40
2		4.00	3.00	4.30	3.00	4.70		1.00	3.40			2.40
3	4.80		4.00	4.20	3.00	4.70		1.00			2.40	2.30
4	4.80	4.00	4.00	4.10	3.20	4.50		2.00		2.30	2.30	
5	4.00	3.90	3.80		3.30	4.50		2.00		2.00		
6		3.90	3.00		3.40	4.30	2.40	1.00		1.00	2.30	
7	4.00	3.80	3.40		3.50	4.10	2.30	2.00	3.40		2.40	
8	4.80	3.80	3.20	4.10	3.70	3.00		2.00	3.30			
9	4.70	3.00	3.00	4.00	4.00			2.20	3.30			
10		3.00				3.00		2.20	2.40	1.00	2.40	
11	4.70	3.00			4.00	3.80		3.00		2.00	2.30	2.30
12	4.40	4.00			4.00	4.20	3.80		3.00			2.40
13		4.00				4.30	3.70		3.10			2.40
14		4.00				4.30	3.70		3.10			2.40
15	4.40	3.00				4.00	3.50	2.30	3.20		2.00	2.30
16	4.30				4.10	4.60	3.40	2.10	3.20	3.40	2.20	3.30
17					4.00	4.70			3.30	3.10	2.30	2.30
18	4.30	3.00	3.00			4.80	3.40		3.40	3.00		2.30
19	4.20	3.80	3.40			4.00	3.30	2.10		2.00		2.40
20	4.00		3.80	4.00	5.00	3.20	2.00	3.40	2.00		2.30	2.50
21	3.00	3.80	4.00	4.10				2.00	3.50	2.70	2.30	2.20
22	3.00	3.00	4.80					2.00	3.00		2.20	
23	3.80	3.80	5.00					2.10	3.70	2.70		2.50
24	3.00	3.00	4.00	4.10				3.20	3.00	3.80	2.40	
25	3.00	3.80	4.80	4.00	5.00	2.50	2.10	3.70	2.50		2.20	
26	3.80	3.80	4.70	3.00	4.00			4.00	3.00	2.10		2.30
27	3.70	3.00	4.80	3.00	4.80			5.00	3.50	2.00		2.30
28	3.80	3.00	4.00	3.40				3.50	3.40		2.20	2.40
29	3.00			4.00	3.10			3.00	3.20		2.30	
30	4.60				4.80	3.10			3.10	2.00	2.30	2.40
31	5.00				4.70	4.80			2.00	3.20	2.40	2.60

**STATION RATING TABLE**  
**For Sevier River, at Leamington, Utah, for 1893.**

Gage height. Feet.	Dis-charge. Sec.-feet.	Gage height. Feet.	Dis-charge. Sec.-feet.	Gage height. Feet.	Dis-charge. Sec.-feet.	Gage height. Feet	Dis-charge. Sec.-feet.
2.00	40	3.30	362	4.60	895	5.80	1,386
2.10	48	3.40	403	4.70	935	5.90	1,427
2.20	60	3.50	444	4.80	976	6.00	1,468
2.30	80	3.60	485	4.90	1,017	6.10	1,500
2.40	100	3.70	526	5.00	1,058	6.20	1,550
2.50	120	3.80	567	5.10	1,099	6.30	1,591
2.60	140	3.90	608	5.20	1,140	4.40	1,632
2.70	160	4.00	649	5.30	1,181	6.50	1,673
2.80	185	4.10	690	5.40	1,222	6.60	1,714
2.90	210	4.20	731	4.50	1,263	6.70	1,755
3.00	245	4.30	772	5.60	1,304	6.80	1,796
3.10	280	4.40	813	5.70	1,345	6.00	1,837
3.20	321	4.50	854				

Based on gagings made during 1890-91.

**ESTIMATED MONTHLY DISCHARGE**  
**Of Sevier River, near Leamington, Utah, for 1893.**  
 (Drainage area, 5,695 square miles.)

Month,	Discharge in Second-Foots,			Total in Aero-Foots	Run-Off,	
	Maximum	Minimum	Mean		Sec.-ft. per Sq. mile.	Depth in Inches.
January	1,304	526	813	51,835	.15	.11
February	1,304	507	630	34,088	.11	.11
March	1,058	245	597	30,609	.10	.12
April	895	280	612	38,202	.12	.13
May	1,058	280	702	40,753	.14	.10
June	976	120	470	28,503	.08	.09
July	1,304	40	157	9,053	.03	.03
August	507	35	207	10,307	.05	.00
September	403	40	404	15,708	.05	.00
October	100	35	55	3,381	.01	.01
November	100	00	83	4,038	.01	.01
December	140	80	101	6,304	.02	.02
The year	1,304	35	407	203,230	.07	.07

Computed from rating table based on meter measurements made during 1890-91.

**MONTHLY DISCHARGE**  
In thousands of acre-feet, of Sevier River, near Leamington, Utah.  
(Drainage area, 5,355 square miles.)

**PRECIPITATION**  
At Ranch, in drainage basin of Sevier River.

Year.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.	Ann.
1902 -----	2.41	2.54	6.06	1.08	0.64	0.00	0.05	2.25	0.25	0.50	5.59	1.66	23.03
1903 -----	1.03	1.11	4.31	2.28	1.40	1.56	0.88	0.45	3.02	1.00	0.00	0.00	17.13
1904 -----	0.00	2.63	3.99	0.44	1.80	0.08	2.64	3.01	0.27	0.00	0.00	0.10	14.96
1905 -----	3.15	7.00	3.07	2.07	1.88	0.00	2.28	0.24	3.26	0.60	3.25	0.26	27.66
1906 -----	*1.65	1.65	12.02	2.55	0.64	0.00	2.94	3.85	0.70	0.00	2.16	3.51	31.67
Mean -----	1.65	3.11	5.95	1.08	1.27	0.33	1.76	1.96	2.30	0.44	2.20	1.11	22.89

\*Missing; mean value is inserted.

**PRECIPITATION**  
At Panguitch, in drainage basin of Sevier River.

Year.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.	Ann.
1905 -----	0.50	0.85	0.63	-----	-----	0.00	1.05	0.97	1.62	0.31	1.60	0.00	-----

**PRECIPITATION**  
At Coyote, in drainage basin of Sevier River.

Year.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.	Ann.
1901 -----	0.23	0.32	0.53	0.70	0.70	0.20	0.72	1.70	0.00	0.11	0.07	0.10	0.28
1902 -----	0.45	0.20	0.95	1.40	0.20	0.26	.54	0.48	0.30	0.18	2.19	0.80	8.01
1903 -----	0.01	0.03	0.63	0.01	0.53	0.60	0.47	0.30	0.11	0.00	0.00	0.00	2.74
1904 -----	0.00	0.08	0.05	0.50	0.17	2.30	0.11	0.95	0.40	0.10	0.00	0.40	5.06
1905 -----	0.47	0.00	0.70	0.88	1.82	0.00	0.98	0.75	1.46	0.11	1.09	0.01	0.20
1906 -----	2.23	0.10	1.38	2.00	0.31	-----	2.01	1.48	2.55	0.00	-----	-----	-----
Mean -----	0.50	0.20	0.69	0.91	0.63	0.00	0.70	0.94	0.80	0.00	0.07	0.20	0.20

**PRECIPITATION**  
At Plateau, in drainage basin of Sevier River.

Year.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.	Ann.
1902 -----	0.00	1.24	1.80	0.83	0.63	0.31	0.20	0.52	1.18	0.35	2.25	1.35	11.83
1903 -----	1.00	1.22	1.02	1.31	2.00	0.47	0.05	0.58	1.05	1.28	0.02	1.22	13.41
1904 -----	1.20	1.01	2.51	0.70	3.11	2.00	1.71	1.31	0.50	0.35	0.00	0.00	15.87
1905 -----	0.63	1.88	2.10	1.50	1.42	0.00	0.43	0.70	1.44	0.22	1.07	0.01	13.20
1906 -----	2.52	0.51	4.04	2.40	1.17	0.01	1.15	1.24	2.01	0.41	1.08	1.27	19.64
Mean -----	1.30	1.20	2.32	1.37	1.70	0.58	0.01	0.87	1.51	0.53	1.24	1.08	14.70

**PRECIPITATION**  
At Marysvale, in drainage basin of Sevier River.

Year.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.	Ann.
1899 -----	2.10	1.96	4.29	1.19	1.50	0.12	1.14	1.50	0.00	2.00	1.15	1.40	18.35
1900 -----	1.00	0.05	1.20	1.63	1.35	-----	0.01	-----	-----	-----	-----	-----	-----
1901 -----	0.80	1.29	0.66	0.22	0.54	0.47	0.82	1.94	0.02	0.80	0.14	0.25	7.95
1902 -----	0.50	0.78	0.02	0.69	0.29	0.09	0.85	1.20	0.79	0.36	1.81	0.63	9.11
1903 -----	0.40	0.36	0.66	0.70	0.81	0.56	0.64	0.00	0.04	1.35	0.00	0.58	8.23
1904 -----	0.29	0.91	1.99	0.37	1.69	0.83	1.12	2.10	0.98	0.44	0.00	0.41	11.00
1905 -----	0.49	3.03	1.36	1.23	1.85	0.00	0.67	1.05	2.28	0.46	1.78	0.16	14.36
1906 -----	0.85	0.63	3.02	1.47	0.65	0.01	0.90	0.91	1.33	0.06	1.00	1.45	12.37
Mean -----	0.80	1.24	1.77	0.94	1.08	0.31	0.77	1.41	0.02	0.70	0.85	0.69	11.61

**PRECIPITATION**  
At Richfield, in drainage basin of Sevier River.

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.	Ann.
1889 -----	-----	-----	-----	-----	-----	-----	-----	1.75	-----	0.47	0.23	1.78	-----
1890 -----	1.00	0.60	0.61	1.50	0.00	0.00	0.52	0.30	0.53	0.51	0.00	0.38	6.02
1891 -----	0.60	1.60	-----	-----	-----	-----	0.80	0.80	0.81	0.00	0.00	1.75	-----
1892 -----	0.00	0.50	0.60	1.00	0.57	0.10	0.11	0.28	0.00	0.72	0.69	0.52	4.61
1893 -----	1.05	-----	0.00	0.05	-----	-----	0.62	2.12	-----	0.01	0.02	1.32	-----
1894 -----	0.05	0.60	1.25	1.18	0.02	0.01	0.83	-----	1.15	0.23	-----	-----	-----
1896 -----	-----	-----	-----	-----	-----	-----	-----	-----	-----	0.55	0.63	0.10	-----
1897 -----	1.00	1.85	1.95	0.12	0.00	0.00	0.01	0.25	1.45	1.59	0.32	0.40	0.03
1898 -----	0.70	0.30	0.40	0.16	1.20	1.00	0.40	0.35	0.00	0.00	-----	-----	-----
1899 -----	0.30	0.55	4.65	0.70	0.00	0.14	0.10	0.12	0.07	0.38	0.20	1.05	8.82
1900 -----	0.45	0.20	0.00	0.00	0.08	0.00	0.00	0.07	0.07	0.05	0.30	0.00	1.22
1901 -----	0.06	-----	1.07	0.23	0.10	0.07	0.14	0.03	0.00	-----	-----	0.74	-----
1902 -----	0.35	0.65	1.35	0.17	0.32	0.24	0.18	0.22	0.01	0.26	1.77	0.47	7.51
1903 -----	0.00	-----	0.57	-----	0.39	0.00	0.31	0.30	1.00	0.83	-----	0.04	-----
1904 -----	0.55	0.20	0.10	0.07	1.03	0.80	0.27	0.37	0.03	0.95	0.00	0.80	5.25
1905 -----	0.00	1.00	-----	-----	-----	-----	-----	-----	-----	-----	0.28	-----	-----
1906 -----	0.30	0.20	1.51	1.21	1.30	0.10	0.85	1.01	-----	-----	0.30	0.41	-----
Mean -----	0.65	0.75	1.17	0.50	0.51	0.28	0.38	0.58	0.48	0.47	0.32	0.61	0.00

## PRECIPITATION

At Mt. Pleasant, in drainage basin of Sevier River.

Year.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.	Ann.
1890	2.00	3.46	2.30	0.00	0.53	0.26	0.90	0.52	0.05	0.88	0.41	1.57	12.88
1891	1.62	2.81	0.50	0.00	2.33	1.12	1.60	1.60	—	—	—	—	—
1892	Miss	ing.	Miss	ing.	Miss	ing.	Miss	ing.	Miss	ing.	Miss	ing.	Miss
1893	*1.15	*1.65	1.70	0.51	0.34	0.80	0.08	0.40	2.10	0.10	0.00	1.86	10.69
1894	1.90	1.70	2.00	0.08	1.20	0.00	0.11	0.22	0.75	0.52	1.90	1.00	11.38
1895	0.31	0.40	0.93	1.36	1.00	*0.45	2.69	0.87	1.58	0.46	1.75	0.20	11.09
1896	1.30	3.10	2.82	0.10	1.58	0.39	0.59	0.05	2.06	2.30	0.75	1.90	16.54
1897	0.70	0.70	1.50	1.15	3.59	0.52	0.30	0.56	0.00	0.29	0.60	0.50	10.41
1898	1.40	3.60	2.29	0.57	1.02	0.99	0.76	1.24	0.00	1.80	0.88	2.10	16.65
1899	0.36	0.60	0.10	2.56	0.32	0.00	0.00	1.16	1.78	0.59	1.56	0.00	8.03
1900	0.56	2.16	2.37	0.13	0.58	0.29	0.19	1.64	0.16	1.32	0.67	1.14	11.21
1901	1.30	1.28	1.06	1.01	0.27	0.09	0.38	*0.74	0.44	*1.78	*0.82	1.32	10.39
1902	1.24	1.10	1.40	1.41	1.40	0.59	0.56	0.00	1.57	0.58	0.20	0.20	10.34
1903	1.10	1.71	2.20	1.22	2.11	0.76	1.12	0.44	0.36	0.88	0.00	1.90	13.70
1904	0.80	1.03	1.70	1.47	1.25	0.00	0.17	*0.74	1.61	0.00	1.15	1.11	11.98
1905	1.53	1.50	*1.64	*0.88	*1.20	0.48	0.90	1.87	1.24	0.40	1.26	1.28	14.18
Mean	1.15	1.65	1.64	0.88	1.20	0.45	0.69	0.74	0.95	0.78	0.85	1.15	12.10

\*Missing; mean value inserted.

## PRECIPITATION

At Mantl, in drainage basin of Sevier River.

Year.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.	Ann.
1894	1.20	—	—	0.00	0.00	0.15	0.28	0.17	1.01	0.20	—	1.00	—
1895	2.00	1.10	1.70	0.07	0.00	0.07	0.85	0.70	0.40	0.12	1.25	0.70	—
1896	0.15	0.10	0.00	0.03	0.10	0.00	0.60	0.43	0.20	0.01	0.30	0.30	—
1897	2.00	2.40	2.05	0.10	0.00	0.18	0.28	—	2.85	—	—	—	—
1898	Miss	ing.	Miss	ing.	Miss	ing.	Miss	ing.	Miss	ing.	Miss	ing.	Miss
1899	1.00	2.00	—	—	—	—	1.02	1.13	0.00	2.38	0.31	1.30	—
1900	0.01	0.25	0.10	—	—	0.00	0.00	—	—	0.00	0.80	0.00	—
1901	0.02	2.50	1.00	0.80	1.00	0.15	0.22	1.23	0.08	1.05	0.50	0.53	0.10
1902	0.52	0.00	1.60	1.08	0.40	0.01	0.20	0.00	0.83	0.40	1.38	0.86	8.26
1903	0.73	1.18	1.10	1.22	2.20	0.28	0.33	0.11	0.08	1.21	0.20	0.40	10.20
1904	1.10	1.13	1.71	0.03	2.03	0.40	0.01	0.37	0.48	0.04	0.00	1.60	11.20
1905	0.85	3.12	1.00	1.51	2.25	0.05	0.00	0.20	3.00	0.51	2.00	1.10	17.03
1906	2.48	0.01	2.82	3.37	1.06	0.30	0.45	1.01	1.52	0.00	1.73	1.53	18.47
Mean	1.20	1.51	1.46	1.07	1.10	0.15	0.51	0.00	1.11	0.73	0.05	0.00	11.33

## Miscellaneous Streams in Sevier Drainage.

### DISCHARGE MEASUREMENTS

Of Beaver Creek, at Mouth of Pink Stone Hollow, near Beaver City, Utah, in 1906.

Date.	Hydrographer.	Area of section.	Mean velocity.	Gage height.	Discharge.
		Square ft.	Ft. per sec.	Feet.	Second-ft.
June 13	J. F. Hoyt	90.0	6.25	5.35	*612
July 2	do	42.5	3.90	4.00	105
August 14	do	23.5	3.32	3.35	78
August 25	do	22.0	2.74	3.28	62

\*Result only approximate on account of high velocity.

### DAILY GAGE HEIGHT AND DISCHARGE IN SECOND-FEET

Of Beaver Creek, at Mouth of Pink Stone Hollow, near Beaver City, Utah, in 1906.

Day.	June.		July.		August.		September.	
	Gage Height	Discharge						
1			4.00	105	3.00	100	3.20	58
2			3.95	156	3.55	94	3.25	63
3			3.95	156	3.50	88	3.20	58
4			3.95	156	3.40	77	3.20	58
5			3.90	147	3.40	77	3.20	58
6			3.90	147	3.40	77	3.20	58
7			3.85	138	3.40	77	3.15	54
8			3.80	128	3.40	77	3.15	54
9			3.80	128	3.40	77	3.15	54
10			3.80	128	3.35	72	3.10	50
11			3.75	120	3.35	72	3.10	50
12			3.75	120	3.35	72	3.10	50
13			3.75	120	3.30	67	3.10	50
14			3.75	120	3.30	67	3.10	50
15	5.20	500	3.70	112	3.30	67	3.10	50
16	5.10	530	3.70	112	3.30	67	3.20	58
17	4.95	475	3.65	106	3.30	67	3.20	58
18	4.80	430	3.65	106	3.30	67	3.20	58
19	4.75	415	3.60	100	3.30	67	3.20	58
20	4.03	380	3.60	100	3.40	77	3.20	58
21	4.00	303	3.55	94	3.55	94	3.10	50
22	4.55	315	3.55	94	3.50	88	3.10	50
23	4.50	330	3.55	94	3.35	72		
24	4.40	300	3.55	94	3.30	67		
25	4.35	315	3.50	88	3.30	67		
26	4.30	263	3.45	88	3.30	67		
27	4.30	205	3.45	88	3.25	63		
28	4.25	250	3.55	94	3.25	63		
29	4.10	290	3.50	88	3.25	63		
30	4.05	180	3.40	77	3.25	63		
31			3.50	88	3.35	72		
Mean		350	111		74		53	

**ESTIMATED MONTHLY DISCHARGE  
Of Beaver Creek, at Mouth of Pink Stone Hollow, near Beaver City, Utah,  
for 1906.**

Month.	Discharge in second-feet.			Total in acre-feet.
	Maximum.	Minimum.	Mean.	
June 15-30	560	180	350	9,680
July	163	77	111	6,825
August	100	63	74	4,550
September 1-22	63	50	55	2,400
The period	560	50	150	23,455

**DISCHARGE MEASUREMENTS**  
Of Beaver Creek, 200 feet below head of Minersville canal, for 1906

Date.	Hydrographer.	Area of section.	Mean velocity.	Gage height.	Discharge
June 21	J. F. Hoyt	Square ft.	Ft. per sec.	Feet.	Second-ft.
		63.5	3.33	3.50	211.5

**DAILY GAGE HEIGHT**

## DISCHARGE MEASUREMENTS

Of North Fork of North Creek, one-half mile below Sly's Fence, near Beaver City, Utah.

Date.	Hydrographer.	Area of section.	Mean velocity.	Gage height.	Discharge.
		Square ft.	Ft. per sec.	Feet.	Second-ft.
June 23		8.52	3.77	2.80	32.0
August 18		2.05	1.74	2.25	3.5
August 27		2.05	1.41	2.25	3.5

## DAILY GAGE HEIGHT AND DISCHARGE IN SECOND-FEET

Of North Fork of North Creek, one-half mile below Sly's Fence, near Beaver City.

Day.	June.		July.		August.		September.	
	Gage Height	Discharge						
1			2.60	19.5	2.20	3.0	2.25	3.5
2			2.60	19.5	2.20	3.0	2.32	5.0
3			2.60	19.5	2.20	3.0	2.22	3.5
4			2.60	19.5	2.10	1.5	2.35	0.0
5			2.60	19.5	2.10	1.5	2.35	0.0
6			2.50	13.5	2.10	1.5	2.35	0.0
7			2.50	13.5	2.10	1.5	2.35	0.0
8			2.50	13.5	2.10	1.5	2.25	3.5
9			2.50	13.5	2.10	1.5	2.25	3.5
10			2.50	13.5	2.10	1.5	2.00	1.0
11			2.50	13.5	2.10	1.5	1.00	1.0
12			2.40	7.5	2.00	1.0	1.00	1.0
13			2.40	7.5	2.00	1.0	1.00	1.0
14			2.40	7.5	2.00	1.0	1.00	1.0
15			2.40	7.5	2.00	1.0	1.00	1.0
16	3.00	44	2.40	7.5	2.00	1.0	1.00	1.0
17	2.00	38	2.30	4.5	2.00	1.0	2.10	1.5
18	2.80	32	2.20	3.0	2.18	2.5	2.10	1.5
19	2.80	32	2.20	3.0	2.10	1.5	2.10	1.5
20	3.00	44	2.20	3.0	2.20	3.0	2.10	1.5
21	2.00	38	2.20	3.0	2.30	4.5	2.10	1.5
22	2.00	38	2.20	3.0	2.30	4.5	2.10	1.5
23	2.80	32	2.10	1.5	2.30	4.5	2.10	1.5
24	2.00	19.5	2.20	3.0	2.30	4.5	2.10	1.5
25	2.70	25.5	2.20	3.0	2.30	4.5	2.20	3.0
26	2.00	19.5	2.20	3.0	2.40	7.5	2.20	3.0
27	2.00	19.5	2.20	3.0	2.30	4.5	2.20	3.0
28	2.00	19.5	2.20	3.0	2.35	0.0	-----	-----
29	2.00	19.5	1.00	1.0	2.30	4.5	-----	-----
30	2.00	19.5	1.00	1.0	2.30	4.5	-----	-----
31			1.00	1.0	2.30	4.5	-----	-----
Mean		29.5		8.5		3.0		2.5

**ESTIMATED MONTHLY DISCHARGE**  
 Of North Fork of North Creek one-half mile below Sly's Fence, near Beaver  
 City, Utah, for 1906.

Month.	Discharge in second-feet.			Total in acre-feet.
	Maximum.	Minimum.	Mean.	
June 16-30 -----	44	19.5	20.5	878
July -----	19.5	1.0	8.5	523
August -----	7.5	1.0	3.0	184
September 1-27 -----	6.0	1.0	2.5	134
The period -----	44	1.0	11.0	1,719

**DISCHARGE MEASUREMENTS**  
 Of South Fork of North Creek, at Narrows, near Beaver City, Utah, for 1906.

Date.	Hydrographer.	Area of section.	Mean velocity.	Gage height.	Discharge.
		Square ft.	Ft. per sec.	Feet.	Second-ft.
June 23 -----		23.0	3.80	3.40	*90.0
August 18 -----		8.5	2.01	2.25	17.5
August 27 -----		7.8	2.08	2.20	16.0

\*Result only approximate.

**DAILY GAGE HEIGHT AND DISCHARGE IN SECOND-FEET**  
 Of South Fork of North Creek, at Narrows, near Beaver City, Utah, for 1906.

Day.	June.		July.		August.		September.	
	Gage Height	Dis-charge						
1			3.10	68	2.40	21	2.32	19
2			3.10	68	2.40	21	2.32	19
3			3.10	68	2.30	18	2.22	16
4			3.10	68	2.30	18	2.35	20
5			2.90	53	2.30	18	2.35	20
6			2.80	46	2.30	18	2.35	20
7			2.80	46	2.40	21	2.35	20
8			2.80	46	2.40	21	2.35	20
9			2.80	46	2.40	21	2.35	20
10			2.80	46	2.40	21	2.25	17
11			2.80	46	2.40	21	2.25	17
12			2.80	46	2.40	21	2.25	17
13			2.80	46	2.60	31	2.25	17
14			2.70	38	2.60	25	2.25	17
15			2.70	38	2.50	25	2.25	17
16	3.80	120	2.70	38	2.40	21	2.30	18
17	3.60	106	2.70	38	2.50	25	2.20	16
18	3.60	106	2.70	38	2.40	21	2.20	16
19	3.60	106	2.60	31	2.40	21	2.20	16
20	3.70	113	2.40	21	3.50	98	2.20	16
21	3.70	113	2.40	21	2.45	23	2.20	16
22	3.60	106	2.30	18	2.40	21	2.20	16
23	3.40	90	2.40	21	2.40	21	2.30	18
24	3.20	75	2.40	21	2.40	21	2.30	18
25	3.10	68	2.40	21	2.40	21	2.30	18
26	3.00	61	2.40	21	2.40	21	2.30	18
27	2.90	53	2.40	21	2.30	18	2.30	18
28	3.00	61	2.40	21	2.30	18	2.30	18
29	2.90	53	2.40	21	2.30	18	2.30	18
30	2.80	46	2.40	21	2.30	18	2.30	18
31			2.40	21	2.30	18	2.30	18
Mean		85		37.5		20.5		17

**ESTIMATED MONTHLY DISCHARGE**  
 Of South Fork of North Creek, at Narrows, near Beaver City, Utah, for 1906.

Month.	Discharge in second-feet.			Total in acre-feet.
	Maximum	Minimum	Mean	
June 1-30	120	40	85	2,520
July	68	21	37.5	2,305
August	98	18	20.5	1,200
September 1-27	20	10	17	925
The period	120	10	40	7,040

## DISCHARGE MEASUREMENTS

Of South Creek, 900 feet above Cox Bros.' Ranch, near Beaver City, Utah, in 1906.

Date.	Hydrographer.	Width.	Area of section.	Mean velocity.	Gage height.	Discharge.
		Feet.	Square feet.	Ft. per second.	Feet.	Second-feet.
June 10	J. F. Hoyt		9.5	2.81	1.20	27
July 6	do		4.1	1.65	0.70	7
July 31	do		3.4	0.84	0.51	3
Aug. 21	do		3.5	0.89	0.45	3

## DAILY GAGE HEIGHT AND DISCHARGE IN SECOND-FEET

Of South Creek, 900 feet above Cox Bros.' Ranch, for 1906.

Day.	June.		July.		August.		September.	
	Gage Height	Discharge						
1								
2			0.80	11.0				
3								
4								
5								
6			0.70	7.0				
7								
8			0.70	7.0				
9								
10			0.80	11.0				
11			0.00	4.5	0.40	2.0		
12			0.70	7.0	0.40	2.0		
13			0.00	4.5				
14			0.70	7.0				
15								
16								
17					0.50	3.0		
18		1.20	27.0		0.50	3.0		
19		1.20	27.0					
20								
21				0.50	3.0			
22				0.00	4.5			
23								
24								
25								
26								
27								
28			0.80	11.0				
29			0.70	7.0				
30			0.50	3.0				
31			0.62	3.5				
Mean					0.5		2.5	

## ESTIMATED MONTHLY DISCHARGE

Of South Creek, 900 feet above Cox Bros.' Ranch, near Beaver City, Utah, for 1906.

Month.	Discharge in second-feet.			Total in acre-feet.
	Maximum.	Minimum.	Mean.	
July	11.0	3.0	6.5	400
August	3.0	2.0	2.5	154
The period	11	2	4.5	554

## DISCHARGE MEASUREMENTS

Of Minersville Canal, at Old Grist Mill Flume, near Minersville, Utah, in 1906.

Date.	Hydrographer.	Area of section.	Mean velocity.	Gage height.	Discharge.
June 21	J. F. Hoyt	Square ft.	Ft. per sec.	Feet.	Second-ft.
June 21	do	11.3	3.61	1.50	41
August 21	do	8.8	3.68	0.03	32.5

**DAILY GAGE HEIGHT AND DISCHARGE IN SECOND-FEET  
OF MINERSVILLE CANAL, AT OLD GRIST MILL FLUME, NEAR MINERSVILLE, UTAH, IN 1906.**

Day.	June.		July.		August.		September	
	Gage Height	Discharge						
1			1.6	42.5	0.9	31	1.4	39.5
2			1.6	42.5			1.5	41
3			1.6	42.5	0.9	31	1.4	39.5
4			1.6	42.5	0.9	31	1.4	39.5
5			1.6	42.5			1.31	38
6			1.6	42.5	0.9	31	1.35	40.5
7			1.6	42.5			1.35	40.5
8			1.6	42.5	0.9	31	1.35	40.5
9			1.6	42.5	0.9	31	1.30	38
10			1.6	42.5			1.30	38
11					0.9	31	1.30	38
12				1.1	35		1.30	38
13					0.9	31	1.30	38
14				1.1	35		1.30	38
15					0.9	31	1.15	36
16				1.1	35		1.15	36
17					0.9	31	1.10	35
18				1.1	35		1.05	34.5
19					0.9	31	1.00	33.5
20				1.1	35			
21	1.6	42.5			0.9	31		
22	1.6	42.5	1.1	35	1.0	33.5		
23						1.1	35	
24	1.5	41.0	1.1	35	1.3	38		
25	1.6	42.5			1.3	38		
26	1.6	42.5	1.1	35	1.3	38		
27	1.6	42.5			1.3	38		
28	1.6	42.5	1.0	33.5	1.3	38		
29	1.6	42.5			1.3	38		
30	1.6	42.5	0.9	31	1.3	38		
31					1.3	38		
Mean			42.5		38.3		34.0	38.0

**ESTIMATED MONTHLY DISCHARGE  
OF MINERSVILLE CANAL, AT GRIST MILL FLUME, NEAR MINERSVILLE, UTAH, FOR 1906.**

Month.	Discharge in second-feet.			Total in acre-feet.
	Maximum.	Minimum.	Mean.	
June 21-30	42.5	41	42.5	810
July	42.5	31	38.3	2,955
August	38	31	34.0	2,000
September 1-20	41	33.5	38.0	1,505
The period	42.5	31	38.2	0,700

**DISCHARGE MEASUREMENTS**  
 Of Indian Creek, 190 feet above head of Beaumont Ditch, near Beaver City,  
 Utah, in 1906.

Date.	Hydrographer.	Area of section.	Mean velocity.	Gage height.	Discharge.
June 26	J. F. Hoyt	Square ft.	Ft. per sec.	Feet.	Second-ft.
August 18	do	8.2	2.59	0.95	21.5
August 27	do	7.7	0.61	0.65	5.0
		3.0	1.33	0.61	4.0

**DAILY GAGE HEIGHT AND DISCHARGE IN SECOND-FEET**  
 Of Indian Creek, 190 feet above head of Beaumont Ditch, near Beaver City,  
 Utah, in 1906.

	June.		July.		August.	
	Gage Height	Discharge	Gage Height	Discharge	Gage Height	Discharge
1					0.73	7.0
2			0.88	16.5		
3						
4			0.86	15.5		
5					0.76	0.0
6			0.84	14.5		
7						
8					0.67	5.5
9						
10			0.80	12.0		
11					0.65	5.5
12						
13						
14			0.78	11.0		
15						
16						
17			0.79	11.0		
18					0.61	5.5
19						
20						
21					0.70	0.0
22						
23			0.71	0.0		
24						
25			0.71	0.0		
26						
27		0.05	24.5			
28		0.02	10.5		0.61	4.0
29					0.61	4.0
30		0.00	18.5			
31				0.71	7.0	0.61
Mean			20.0	10.5		5.3

**ESTIMATED MONTHLY DISCHARGE**  
 Of Indian Creek, 190 feet above head of Beaumont Canal, near Beaver City, Utah,  
 for 1906.

Month.	Discharge in second-feet.			Total in acre-feet.
	Maximum.	Minimum.	Mean.	
June 26-30	21.5	18.5	20	198
July	16.5	6.0	10.5	645
August	7.0	4.0	5.3	325
The period	21.5	4.0	12.0	1,168

**DISCHARGE MEASUREMENTS**  
 Of San Pitch River, near Gunnison, Utah, in 1905.

Date.	Hydrographer.	Area of section.	Mean velocity.	Gage height.	Discharge.
		Square ft.	Ft. per sec.	Feet.	Second-ft.
June 10	C. S. Jarvis	40	2.92	2.46	116
July 1	do	36.5	2.63	2.40	96
August 12	do	39.5	2.88	2.46	114
September 22	do	1.05	1.12	1.00	1.2

**DISCHARGE MEASUREMENTS**  
 Of Sevier River, 3 miles below Marysville, near Marysville, Utah, in 1905.

Date.	Hydrographer.	Area of section.	Mean velocity.	Gage height.	Discharge.
		Square ft.	Ft. per sec.	Feet.	Second-ft.
June 16	C. S. Jarvis	160	1.87	2.00	300
June 18	do	152	1.81	1.80	270
June 20	do	134	1.44	1.50	193
July 8	do	150	1.83	1.00	201

**DISCHARGE MEASUREMENTS**  
 Of Sevier River, at Ten-Mile Junction, near Marysville, Utah, in 1905.

Date.	Hydrographer.	Area of section.	Mean velocity.	Gage height.	Discharge.
		Square ft.	Ft. per sec.	Feet.	Second-ft.
June 10	C. S. Jarvis	65	1.50	2.00	98
June 23	do	52	1.23	1.00	64
June 30	do	88	1.85	2.35	103

**DISCHARGE MEASUREMENTS**  
Of Sevier River, near Gunnison, Utah, in 1905.

Date.	Hydrographer.	Area of section.	Mean velocity.	Gage height.	Discharge.
June 19	C. S. Jarvis	Square ft.	Ft. per sec.	Feet.	Second-ft.
July 1	do	32.5	1.51	0.76	49
August 11	do	22.5	0.89	0.42	20
		25.5	1.17	0.53	30

MISCELLANEOUS DISCHARGE MEASUREMENTS  
In Sevier River basin in 1904.  
[By C. Tanner.]

Date	Stream.	Locality.	Width	Area of section.	Mean velocity.	Gage H'.	Discharge
			Feet.	Sq.-ft.	pr sec.	Feet.	Sec.-ft.
Mar. 4	Sevier River	Sevier Bridge, Utah	49	78	0.99	0.01	77
Mar. 21	do	do	20	20	2.40	.55	47
Aug. 20	do	do	20	22	2.10	—	46
Oct. 26	do	do	20	23	2.26	—	52

MISCELLANEOUS DISCHARGE MEASUREMENTS  
Made in Sevier River drainage basin, by J. S. Jarvis, in 1905.

Date.	Stream.	Locality.	Gage Height.	Discharge.
June 17	Sevier River	Sevier Railway Station	Feet.	Sec.-Ft.
June 17	Clear Creek	Sevier Railway Station	2.10	119
June 17	Pine Creek or Bul-			
	Hon Creek	Marysville	1.00	94
June 20	Bullion Creek	Marysville	1.13	117
June 20	Bullion Creek	Three miles west of Marysville	2.50	170
June 21	Beaver Creek	2 miles above Juniper, with Sevier R.	1.30	98
June 28	Pine Creek or Bul-			
	Hon Creek	Marysville	1.00	108
June 28	Beaver Creek	2 miles above Juniper, with Sevier R.	1.05	70
June 29	Clear Creek	Sevier Railway Station	1.57	48
June 29	Sevier River	Sevier Ry. Sta., 400 feet above Junction with Sevier River	1.05	200
July 8	Pine Creek or Bul-			
	Hon Creek	3 miles west of Marysville	2.21	48
July 8	Beaver Creek	2 miles above Juniper, with Sevier R.	0.85	43
July 11	Monroe Creek	Above river at mouth of canyon	—	0
July 22	Cove River	Wagon bridge on road to Richfield	—	9
July 22	Glenwood Springs	By old mill	—	7.5
July 26	Black Knoll Sprgs	1 mile south of Sigurd	—	11.5

MISCELLANEOUS DISCHARGE MEASUREMENTS  
Made in Sevier River drainage basin by C. S. Jarvis, in 1905.

Date.	Stream.	Locality.	Discharge. Second-Ft.
Aug. 3	Canal conveying Salina Creek	One-third mile above mill	18
Aug. 4	Lost Creek	Intake of first canal	6.5
Aug. 8	Redmond Canal	75 feet below reservoir gate	12
Aug. 10	Twelve Mile Creek	50 feet above first canal	31
Aug. 10	Willow Creek	6 miles above Axtel	1
Aug. 12	Spaniard Springs	County Road Crossing	2
Aug. 12	Nine Mile Cold Springs	At Wagon Bridge	2
Aug. 12	Nine Mile Warm Sprgs	At Flume Crossing	2
Aug. 17	Morrison Tunnel	Sterling	5.5
Aug. 19	Manti Creek	300 feet above rock cut at mouth of canyon	13.5
Aug. 30	Cottonwood Creek	In Ephraim Canyon, 500 feet above intake of first canal	7.5
Aug. 17	Six Mile Creek	At Dividing Weir	16.5
Sept. 4	Fountain Green Town Canal	Fountain Green	12
Sept. 4	Lower Canal	Fountain Green	5
Sept. 4	Upper Canal	Fountain Green	7.5
Sept. 5	Birch Canal Springs	2½ miles southwest of Fountain Green	1.5
Sept. 5	Freedom Springs		1
Sept. 11	Brewer's Springs	Wales	0.5
Sept. 12	Moroni Upper Canal	Moroni	0.5
Sept. 11	Moroni Upper Canal	Moroni, 1 mile northeast of Post office	4.0
Sept. 12	San Pitch River	Between Mt. Pleasant and Fairview	11.5
Sept. 12	San Pitch River	½ mile east of Moroni	13
Sept. 12	Moroni City Canal	Moroni	0.5
Sept. 12	Silver Creek	At Wagon Bridge on County Road	0.5
Sept. 12	Duck Springs	At County Road Bridge	2.5
Sept. 16	Canoe Creek		3.5
Sept. 16	Canoe Creek	Southeast of Spring City	2.2
Sept. 18	Oak Creek	miles east of Spring City	5
Sept. 18	Oak Creek Canal	¼ mile east of Spring City	4.5
Sept. 18	Sugar Factory Springs		4
Sept. 19	Pleasant Creek	¼ mile above first canal	8.5
Sept. 19	North Creek	3 miles east of Mt. Pleasant	1.5
Sept. 19	Clear Creek	4½ miles southeast of Mt. Pleasant	1.5
Sept. 19	Twin Creek	3½ miles east of Mt. Pleasant	8
Sept. 19	Twin Creek	¾ mile east of Mt. Pleasant	6
Sept. 22	San Pitch River	1 mile northwest of Fairview	1
Sept. 22	Cottonwood Creek	400 feet above Power Canal Intake	4
Sept. 22	San Pitch River	500 feet below Fairview Grist Mill	13.5

MISCELLANEOUS DISCHARGE MEASUREMENTS  
Made in Sevier River drainage basin, by J. F. Hoyt, in 1906.

Date.	Stream.	Locality.	Discharge. Second-Ft.
June 4	North Ditch Nephi Irrigation Co.	1/4 mile north of S. P., L. A. & S. L. R. R. depot	
June 27	Wild Cat Creek	1/4 mile above E. Gillies' Ranch	9.0
June 27	Pine Creek	1/2 mile above G. Bradshaw's Ranch House	2.3
June 28	Kesler Ditch	Cove Port	9.0
June 28	No. Fork Pine Creek	County Road Crossing	0.6
June 26	Indian Creek	480 feet above T. F. and B. Ditch, Beaver City	2.0
July 4	Hitchings & Thompson Ditch	Beaver City	15.5
July 4	Beaver City Irrl. Canal	Beaver City	2.6
July 4	Harris Canal	Beaver City	30.3
July 4	Beaver City Power Canal	Beaver City	25.6
July 6	Birch Creek	Beaver City	13.8
July 11	A. Boyter's Dug Well and Springs	Mouth of Canyon	3.3
July 14	H. Green's 3 Springs	North Creek	0.1
July 13	G. B. Gillies and D. M. Gillies' 2 Springs	Beaver City	0.3
July 13	2 Springs on Hannah Gales' farm	Beaver City	0.8
July 13	Springs	Dry Creek	1.4
July 14	Farnsworth and Basian Bros.' Springs	Indian Creek	0.7
July 20	Jeddy Dean's Well	Beaver City	0.1
July 20	J. H. Cartwright's Spr.	Beaver City	0.3
July 20	Wm. E. Yardley's 2 Springs	Beaver City	0.1
July 28	Jos. Jackson's 2 Springs	Beaver City	0.3
Aug. 21	Dotson's Warm Sprgs	Beaver City	0.4
Aug. 25	Birch Creek	Minersville	0.1
July 6	North Fork of South Creek	Cox Bros.' Ranch, Beaver City	0.0
July 31	North Fork of South Creek	Beaver City	0.1
Aug. 25	North Fork of South Creek	Beaver City	0.3
			0.2

**MISCELLANEOUS DISCHARGE MEASUREMENTS**  
 Made in Southern Utah.  
 [C. Tanner.]

Date.	Stream.	Locality.	Area of sec- tion.	Mean veloc- ity.	Dis- charge
			Sq. feet.	Ft.per second	Sec- feet.
Apr. 20	Sevier River	Hatchtown	(3)	2.83	195.0
Apr. 22	Parowan Creek	Parowan	9	3.33	30.0
Apr. 24	Summit Creek	Summit (Iron County)	3.2	3.10	10.0
Apr. 24	Winn's Creek	One mile south of Summit			3.0
Apr. 25	Cedar Creek	Cedar	23	3.70	\$5.0
Apr. 26	Hamilton's Fork Crk				2.2
Apr. 26	Kanana Creek	Kanana	6	3.50	21.0
Apr. 26	Camp Creek	Iron County			5.0
Apr. 27	Leed's Creek	Below Silver Reef	3.2	3.55	11.3
Apr. 27	Harrisburg Creek	Harrisburg			10.0
Apr. 27	Cottonwood Creek	Wagon Road Crossing			4.0
Apr. 28	Washington Field Ca- nal	One mile below headgate	33	1.60	53.0
June 6	Beaver Creek	Kamas	40	5.85	232.0
June 6	Shingle Creek		22	4.00	88.0

## COLORADO RIVER DRAINAGE BASIN.

### *General Description.*

Colorado River is formed in the southeastern part of Utah by the junction of Grand and Green rivers. Green River is larger than the Grand, and is the upward continuation of the Colorado. Including the Green the entire length of the Colorado is about 2,000 miles. The region drained is about 800 miles long, varies in width from 300 to 500 miles, and contains about 300,000 square miles. It comprises the southwestern part of Wyoming, the western part of Colorado, the eastern half of Utah, practically all of Arizona, and small portions of California, Nevada, New Mexico, and old Mexico. Most of this area is arid, the mean annual rainfall being about 8½ inches. The streams receive their supply from the melting snows on the high mountains of Wyoming, Utah, and Colorado.

There are two distinct portions of the basin of the Colorado. The lower third is but little above the level of the sea, though here and there ranges of mountains rise to elevations of 2,000 to 6,000 feet. This part of the valley is bounded on the north by a line of cliffs which present a bold, often vertical, step, hundreds or thousands of feet, to the table-land above. The upper two-thirds of the basin lies from 4,000 to 8,000 feet above sea level, and is bordered on the east, west, and north by ranges of snow-clad mountains, which attain altitudes varying from 8,000 to 14,000 feet above sea level. Through this plateau the Colorado and its tributaries have cut narrow gorges or canyons in which they flow at almost inaccessible depths. At points where lateral streams enter, the canyons are broken by narrow, transverse valleys, diversified by bordering willows, clumps of box elder, and small groves of cottonwood. The whole upper basin of the Colorado is traversed by a labyrinth of these canyons, most of which are dry during the greater portion of the year, and carry water only during the melting of the snow and the brief period of the autumnal and spring rains.

Low mesas, dry and treeless, stretch back from the brink of the canyons, and beyond are long lines of brilliantly colored

cliffs, scores or hundreds of miles in length and hundreds or thousands of feet in altitude, presenting steep or even vertical faces of rock. These cliffs form a series of terraces, and each marks the boundary "of some geological series of strata the edges of which are exposed, like courses of masonry, in the scarp walls of the palisades." The lateral extension of such a line of cliffs is very irregular, sharp salients being projected on the plains below and deep recesses cut into the terraces above.

The region is further diversified by short ranges of eruptive mountains. A vast system of fissures extends across the country, and huge cinder cones, red, brown, and black, stand along the fissures and form conspicuous landmarks, set, as they are, in contrast to the bright variegated rocks of sedimentary origin.<sup>b</sup>

As a matter of convenience the drainage area has been divided into three basins: (1) Green River basin, (2) Grand River basin, and (3) Colorado River below the junction of Grand and Green rivers, and each of these basins is subdivided to allow the separate description of branches of the main river.

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<sup>a</sup> Dutton, C. E., Physical Geology of the Grand Canyon District: Second Ann. Report, U. S. Geol. Survey, 1882.

<sup>b</sup> Powell, J. W., Exploration of the Colorado River of the West, Washington, D. C., 1875.

## GREEN RIVER DRAINAGE BASIN.

### *Area and Extent.*

Green River and its tributaries drain an area rudely triangular in outline, bounded on the north and east by the Wind River Mountains and the ranges forming the Continental Divide, on the south and east by the White River Plateau and the Roan or Book Cliffs, and on the north and west by the Gros Ventre and Wyoming mountains and the great Wasatch Range. The greatest length of the basin, north and south, is about 370 miles. In an east-west direction it measures at its widest point about 240 miles. The total drainage area is approximately 41,000 square miles.

The area includes a large part of western Wyoming, northwestern Colorado, and eastern Utah. The Uinta and Uncompahgre Indian reservations are located in this basin in northeastern Utah.

In the following account of the work of the United States Geological Survey in this region during 1905 the basin has been subdivided, as a matter of convenience, the main river being described first and the tributary streams, beginning at the headwaters, afterwards.

### GREEN RIVER,

#### *Description of Basin.*

Green River heads on the west slope of the Wind River Mountains in western Wyoming, its ultimate source being a number of small lakes fed by the glaciers and immense snow deposits always to be found on Fremont and neighboring peaks. For perhaps 25 miles the river flows northwestward through the mountains. It then turns abruptly and runs in a general southerly direction across western Wyoming into Utah. A few miles below the Wyoming-Utah boundary another sharp turn carries the river eastward along the Uinta Mountains, through which it breaks near the east end of the range. It then flows southward in Colorado for about 25 miles, turns back into Utah, and continues to flow in a southwesterly and southerly direction until it unites with the Grand to form the Colorado. Its length, measured roughly along the course, is approximately 425 miles.

The topography of the headwater region is rugged in the extreme. The Wind River Range on the east and the Gros Ventre and Wyoming ranges on the northwest and west gradually close in as they extend southward, forming a basin comprising approximately 7,450 square miles in extent above the gaging station at Green River, Wyo. The upper part of this basin is very narrow, but southward the valley opens out and near Fontanelle, Wyo., is several miles wide, with benches and rolling table-lands extending westward to the foothills of the Wyoming Range and eastward to the bluffs which hug the east bank of the river. At Green River the valley is again narrow—only a few hundred yards in width—and for some distance southward the river runs between bluffs standing so close together that no flood plain is seen. Throughout much of its course in Utah the Green flows through a succession of long, deep, narrow canyons, with walls ranging in height from a few hundred to as many thousand feet, separated by short valleys containing small tracts of arable lands.

In its upper course the Green receives as tributaries numerous streams heading in the Wind River, Gros Ventre, and Wyoming ranges of mountains, some of them extending so far back into the abrupt, ragged canyons that they dovetail with streams flowing in opposite directions. The most important of these tributaries are Newfork River, Big Sandy Creek, La Barge Creek, Fontanelle Creek, Black Fork, and Henry Fork. South of the Uinta Mountains the first large stream flowing into the Green is the Yampa, which comes in from the east at the point where the Green turns westward to re-enter Utah after its southward journey in Colorado. Farther south Ashley Creek and Uinta and White rivers discharge their waters to the Green, Ashley Creek and the Uinta from the west and the White from the east. Below this point the only tributaries of importance are Minnie Maud Creek and San Rafael River, which enter from the west, the latter at a point about 32 miles above the junction of the Green and the Grand.

In the foothills and in close proximity to the main ranges of the upper portion of the basin the soil is sand mixed with disintegrated granite, changing into a light, sandy loam on the rolling uplands, and a rich alluvial deposit in the valleys adjacent to the waterways. Very little land is under cultivation, and except in a few favored localities the only product is hay, which is consumed by the stock grazed on the surrounding hills. Directly south of the Uinta Mountains, in the region

drained by Ashley Creek and Uinta, Whiterocks, and Duchesne rivers, large tracts of excellent agricultural land are found, much of it being comprised in the Uinta Indian Reservation.

The geology of this basin is described in the Eleventh Annual Report of the United States Geological and Geographical Survey of the Territories for 1877, F. V. Hayden in charge, pages 509-646. Information in regard to the hydrography is contained in the first to fourth annual reports of the Reclamation Service and in other United States Geological Survey reports.

## Green River at Greenriver, Wyo.

This station was established May 2, 1895, near the pump house at a point about 40 feet below the bridge of the Union Pacific Railroad, at Green River, Wyo. Since that date it has been maintained continuously, except for a few months during the winter and during the year 1900.

The channel is straight for about 500 feet above and 300 feet below the measuring section, and the banks are sufficiently high to prevent overflow. The bed of the stream is composed of sand. During low-water periods the entire right half of the channel is a bed of clean sand, shifting more or less each year, and the stream runs in a single channel on the left; but as the water rises it extends across the two channels and under the approaches of the bridge. At the gage there are at ordinary stages two channels and at times of flood four channels, interrupted, to some extent, by open cribs four feet wide, made by spiking heavy planks to piles driven into the bed of the stream, which here is sandy but stable.

Discharge measurements are made from the iron highway bridge about one-half mile below the railway bridge, as the section under the latter is unsatisfactory for the purpose. The initial point for soundings is a deep notch cut in the railing near the end of the bridge, on the left bank.

The gage, which was observed during 1905 by William Slater, is a staff securely fastened to heavy submerged cribbing on the east bank of the river. The bench mark is a cross on the third step from the bottom of the south end of the east abutment of the railroad bridge; elevation 12.48 feet above the zero

<sup>1</sup>" gage. It has not changed perceptibly since so placed.

Information in regard to this station is contained in the following publications of the United States Geological Survey (Ann. Annual Report; Bull. Bulletin; WS. Water-Supply Paper):

Description: Ann 18, iv, pp 272-273; Bull 140, p 200; WS 16, p 135; 28, p 131; 37, pp 286-287; 50, pp 366-367; 66, p 82; 85, p 75; 100, p 124; 133, p 53.

Discharge: Ann 18, iv, p 274; Bull 140, p 200; WS 16, p 135; 28, p 142; 37, p 287; 66, p 82; 85, p 75; 133, p 54.

Discharge, monthly: Ann 18, iv, p 275; 19, iv, p 395; 20, iv, pp 378-380; 21, iv, p 302; Bull 140, p 201; WS 75, p 164; 85, p 77; 133, p 56.

Discharge, yearly: Ann 20, iv, p 58.

Gage heights: Bull 140, p 201; WS 11, p 70; 16, p 135; 28, p 134; 37, p 287; 50, p 367; 66, p 83; 85, p 76; 100, p 125; 133, p 54.

Hydrographs: Ann 18, iv, p 275; 19, iv, p 396; 20, iv, p 381; 21, iv, p 303.

Rainfall and run-off relation: Ann 20, iv, p 379.

Rating tables: Ann 18, iv, p 274; 19, iv, p 395; Bull 140, p 201; 28, p 144; 39, p 451; 66, p 173; 85, p 76; 133, p 55.

<sup>a</sup>Dutton, C. E., Physical geology of the Grand Canyon district: Second Ann. Rept. U. S. Geol. Survey, 1882, p 51.

<sup>b</sup>Powell, J. W., Exploration of the Colorado River of the West, Washington, 1875, p 6.

**DISCHARGE MEASUREMENTS  
OF Green River, at Greenriver, Wyo., in 1895.**

Date.	Hydrographer.	Gage height Feet.	Discharge Sec. and feet.
June 20	W. M. Gherest.	3.30	38,066
July 2	do	4.25	70,111
October 22	do	1.15	418

**ESTIMATED MONTHLY DISCHARGE  
OF Green River, at Greenriver, Wyo., for 1895.  
(Drainage area, 7,450 square miles.)**

Month.	Discharge in second feet.			Total in acre feet.
	Maximum.	Minimum.	Mean.	
June	6,200	2,315	3,908	213,983
July	9,015	3,000	5,517	270,505
August	7,050	2,530	4,149	253,207
September	2,735	1,005	1,701	101,775
October	980	182	638	37,901
November	608	100	472	29,002
December	361	230	309	19,000
January	18	17-20	17.5	10,000

**DISCHARGE MEASUREMENTS**  
Of Green River, at Greenriver, Wyo., in 1896.

Date.	Hydrographer.	Gage height.	Discharge.
		Feet.	Second-feet.
May 9	W. M. Gilcrest	2.27	2,095
June 19	do	6.05	14,731
July 7	do	3.60	4,805
August 8	do	2.55	2,450
August 17	do	1.70	1,007
September 30	C. T. Johnson	1.30	920

**DAILY GAGE HEIGHT**  
Of Green River, at Greenriver, Wyo., for 1896.

Day.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
1					1.00	4.77	4.08	2.58	1.62	1.30		1.60
2					1.85	4.07	3.08	2.53	1.65	1.30		
3					1.87	4.85	3.88	2.43	1.00	1.25		1.60
4					1.00	5.15	3.80	2.40	1.60			1.65
5					1.05	5.45	3.78	2.35	1.55	1.25		
6					1.00	5.35	3.70	2.28	1.55	1.20		
7					2.00	5.25	3.63	2.20	1.50	1.15		1.65
8					2.15	5.02	3.60	2.13		1.70		1.70
9					1.00	2.22	1.80	3.55	2.08		1.15	
10					1.55	2.25	4.00	3.50	2.03			
11					1.60	2.70	4.35	3.45	1.93			
12					1.55	2.15	5.75	3.10	1.00			
13					1.50	2.15	5.02	3.35	1.85	1.60	1.15	
14					1.57	2.10	5.82	3.35	1.78	1.45	1.10	
15					1.07	2.05	5.87	3.45	1.73	1.45	1.10	
16					1.70		5.07	3.70	1.70	1.40		
17					1.70	2.05	5.07	3.70	1.70	1.35		
18					1.02	2.00	0.05	3.55	2.00	1.35		
19					1.55	2.00	0.05	3.50	1.88	1.27		
20					1.52	1.95	0.18	3.43	1.00	1.25		1.70
21					1.57	1.90	0.20	3.33	2.08	1.25		1.80
22					1.57	1.05	0.00	3.25	2.10	1.30		
23					1.55	2.02	5.70	3.18	2.15	1.25		
24					1.50	2.30	5.45	2.98	2.08	1.20		
25					1.50	2.03	5.10	2.90	1.03			
26					1.07	2.85	4.03	2.88	1.88			
27					1.07	2.00	4.73	2.80	1.78	1.20		1.80
28					1.85	2.07	4.53	2.73	1.08	1.25		
29					1.02	3.37	4.33	2.03	1.58	1.30		
30					1.00	3.87	4.23	2.00	1.57	1.30		
31						4.27		2.53	1.00			

**ESTIMATED MONTHLY DISCHARGE**  
**Of Green River, at Greenriver, Wyo., for 1896.**  
 (Drainage area, 7,450 square miles.)

Month.	Discharge in Second-Feet.			Total in Acre-Feet.	Run-Off.	
	Maximum	Minimum	Mean.		Sec.-ft. per Sq. mile.	Depth in Inches.
April 9-30	1,049	930	1,020	44,506	0.14	0.12
May	6,980	1,220	2,136	131,337	.29	.33
June	15,460	7,540	11,769	700,303	1.58	1.76
July	6,380	2,430	4,198	258,217	.56	.61
August	2,505	979	1,470	90,387	.20	.23
September	1,035	750	869	51,709	.12	.13
October	800	700	745	22,170	.10	.11
November			*800	47,603	.11	.12
December	1,160	1,000	1,080	66,407	.15	.17

\*Estimated.

**DISCHARGE MEASUREMENTS**  
**Of Green River, at Greenriver, Wyo., in 1897.**

Date.	Hydrographer.	Gage height,	Discharge.
			Feet.      Second-feet.
April 27	C. C. Babb and C. T. Johnson	1.83	1,820
May 7	do	3.30	0,070
May 18	do	4.00	0,325
May 26	do	5.35	15,318
June 3	do	5.10	14,800
June 10	do	3.45	0,104
June 15	do	3.00	7,094
August 9	do	2.00	2,081

DAILY GAGE HEIGHT  
Of Green River, at Greenriver, for 1897.

Day.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
1				1.88	2.35	4.80	2.85	1.85	1.10	1.00	1.25	
2				1.75	2.50	4.92	2.75	1.95	1.05	1.32		
3	1.80			1.55	2.55	5.08	2.75	2.02	1.00		1.25	
4				1.50	2.72	4.80	2.85	2.25	0.98			
5		2.20	2.15	1.58	2.95	4.40	3.00	2.22	.95		1.20	
6		2.20	2.15	1.52	3.15	4.12	2.92	2.18	.95			
7				1.50	3.32	3.82	2.85	2.08	1.00			
8	1.80			1.52	3.45	3.55	2.65	2.10	1.00		1.20	
9	1.80			1.48	3.08	3.48	2.58	2.02	.95			
10				1.45	3.65	3.58	2.50	2.10	1.00		1.20	
11				1.55	3.58	3.68	2.50	2.05		1.35		
12	1.80	2.10	2.15	1.72	3.50	3.72	2.50	1.98			1.20	
13		2.10		1.78	3.38	3.65	2.45	1.88	1.00	1.30		
14			2.15	1.95	3.38	3.65	2.40	1.82	.95			
15				2.00	3.50	3.68	2.32	1.80	.95	1.25	1.20	
16	1.80			2.05	3.08	3.75	2.30	1.80	.95			
17				2.15	3.88	3.75	2.25	1.75	.90		1.20	
18	1.80	2.10		2.30	4.02	3.80	2.30	1.68		1.80		
19				2.15	2.25	4.10	3.75	2.25	1.58			1.15
20		2.10	2.15	2.35	4.25	3.55	2.25	1.50		1.60		
21				2.40	4.62	3.35	2.22	1.45				
22	1.90			2.50	5.30	3.12	2.18	1.40		1.20		
23				2.40	5.85	3.05	2.12	1.40				
24	1.90			1.85	5.58	3.00	2.10	1.35				
25				1.78	5.42	2.98	2.02	1.32	.90	1.25		
26		2.15	2.40	1.80	5.32	3.02	1.98	1.28	.95			
27		2.15	2.40	1.98	5.28	3.00	1.95	1.25	.95	1.30		
28				2.05	5.15	3.00	1.90	1.20	.95			
29	2.00			2.22	4.88	3.00	1.90	1.20	1.00	1.30		
30	2.00			2.35	4.60	2.98	1.85	1.15	1.00			
31					4.02		1.80	1.12				

ESTIMATED MONTHLY DISCHARGE  
OF Green River, at Greenriver, Wyo., for 1897.  
(Drainage area, 7,450 square miles.)

Month.	Discharge in Second-Feet.			Total in Acre-Feet.	Run-Off, Sec. ft. per sq. mile,	Depth in Inches,	
	Maximum	Minimum	Mean				
January				*1,800	110,708	0.24	0.28
February				*1,000	105,520	.20	.27
March				*1,000	110,827	.20	.30
April	3,200	1,200	1,058	110,509	.20	.20	
May	17,800	2,725	0,760	600,076	1.31	.51	
June	14,400	4,100	7,518	440,130	1.01	1.13	
July	4,400	1,700	2,704	174,707	.37	.43	
August	2,500	640	1,603	98,505	.32	.25	
September	640	400	462	27,801	.00	.07	
October	1,700	500	1,013	62,287	.14	.16	
November	880	600	760	45,223	.10	.11	
December				*600	30,803	.08	.09
The year				2,070	1,041,301	.30	.48

\*Estimated.

**DAILY GAGE HEIGHT**  
Of Green River, at Greenriver, Wyo., for 1898.

Day.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
1				1.20	2.60	3.65	4.00	2.00	1.45	.78	.80	
2				1.25	2.58	3.48	3.85	1.95	1.40	.80		
3				1.35	2.53	3.28	3.68	1.93	1.43	.85		
4				1.47	2.50	3.30	3.50	1.83	1.45	.85		
5				1.53	2.45	3.40	3.43	1.75	1.40	.90		
6				1.43	2.40	3.33	3.38	1.75	1.38	.90		
7				1.27	2.33	3.23	3.33	1.78	1.33	.85		
8				1.45	2.28	3.13	3.23	1.78	1.25	.85		
9				1.45	2.13	3.03	3.13	1.75	1.23	.85	.80	
10				1.55	2.23	2.95	3.10	1.70	1.18	.90	.70	1.00
11				1.60	2.28	3.00	3.10	1.65	1.15		.75	
12				2.10	2.35	3.08	3.13	1.62	1.10		1.50	
13				2.08	2.43	3.20	3.20	1.50	1.10		1.40	
14				3.13	2.68	3.50	3.25	1.55	1.05		1.20	
15				2.95	2.85	3.85	3.23	1.60	1.05		1.00	1.10
16				2.88	2.93	4.05	3.15	1.65	1.03	.90	.90	1.10
17				3.00	2.95	4.23	3.10	1.65	1.00	.85	.60	
18				3.23	2.95	4.33	3.05	1.60	1.00		.80	
19				3.08	3.03	4.45	2.98	1.55	.95			
20				2.73	3.00	4.63	2.88	1.55	.95		.90	1.20
21				2.55	2.98	4.68	2.65	1.55	.90		.90	
22				2.48	2.78	4.75	2.45	1.50	.90	.85	.85	
23				2.35	2.60	4.83	2.33	1.48	.83	.80	.80	1.30
24				2.45	2.65	4.90	2.30	1.38	.83		.80	
25				2.35	2.85	4.98	2.30	1.33	.80			
26				2.35	3.43	5.15	2.25	1.25	.80		.80	
27				2.38	3.50	5.23	2.23	1.20	.80		.85	1.10
28				2.48	3.50	4.88	2.20	1.15	.80			
29				2.60	3.58	4.53	2.15	1.13	.75			
30				2.63	3.70	4.25	2.08	1.28	.75			
31					3.65		2.03	1.45		.80		1.50

**ESTIMATED MONTHLY DISCHARGE**  
Of Green River, at Greenriver, Wyo., for 1898.  
(Drainage area, 7,450 square miles.)

Month.	Discharge in Second-Feet.			Total in Acre-Foots	Run-Off, Sec. ft. per Sq. mile,	Depth in Inches,
	Maximum	Minimum	Mean			
April	5,520	800	2,601	458,510	.36	.10
May	7,680	2,320	4,001	240,820	.55	.63
June	15,120	4,200	6,001	739,311	1.20	1.30
July	9,126	2,160	4,620	284,075	.62	.71
August	2,080	720	1,417	87,428	.10	.22
September	1,200	200	610	38,410	.09	.10
October	400	300	247	21,936	.05	.06
November	1,280	160	405	24,100	.05	.06
December			840	52,203	.11	.13

**DISCHARGE MEASUREMENTS**  
Of Green River, at Greenriver, Wyo., in 1899.

Date.	Hydrographer.	Gage height.	Discharge.
		Feet.	Second-feet.
April 19	A. J. Parshall	1.35	1,595
May 13	do	2.20	2,661
May 25	do	2.55	3,422
June 7	do	3.80	8,234
June 20	do	5.30	15,305
July 5	do	6.25	18,372
August 30	do	2.10	1,632

**DAILY GAGE HEIGHT**  
Of Green River, at Greenriver, Wyo., for 1899.

Day.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
1		1.80	1.00	1.00	1.78	3.20	0.38	3.88	2.15	1.45	1.00	1.20
2				1.70	1.58	3.25	0.43	3.78	2.05			
3	1.50			.95	1.50	3.35	0.50	3.70	1.95	1.45	1.00	1.20
4				1.10	1.43	3.48	0.43	3.68	1.90	1.40		
5				.90	1.33	3.55	0.13	3.65	1.90		1.00	
6				.80	1.30	4.00	5.85	3.05				
7				.90	1.33	3.95	0.75	3.58	1.00	1.40	1.55	1.45
8		1.80	1.70	.85	1.50	3.70	5.73	3.53	1.85	1.45		
9	1.60			.95	1.50	3.45	5.05	3.50	1.85		1.55	1.45
10				.90	1.03	3.38	5.60	3.45	1.80	1.45		
11				1.30	1.05	3.43	5.53	3.40	1.78	1.48	1.50	1.45
12				1.35	2.15	3.73	5.45	3.40	1.73	1.50		
13	1.00			1.50	2.28	4.13	5.45	3.35	1.78	1.55	1.50	1.45
14				1.50	2.55	4.08	5.48	3.23	1.85	1.58		
15		1.00	1.30	1.00	2.58	4.73	5.63	3.13	1.80	1.00	1.50	1.45
16				1.50	2.80	4.35	5.45	3.00	1.75			
17				1.40	2.78	4.30	5.38	2.95			1.50	1.40
18				1.40	2.05	4.50	5.23	2.93	1.75	1.00		
19	1.00			1.35	2.03	4.03	4.05	2.83	1.73	1.03	1.45	1.40
20				1.35	2.50	5.40	4.73	2.68	1.70	1.03		
21				1.30	2.80	5.80	4.63	2.60	1.05	1.08	1.40	1.45
22		1.00	1.30	1.25	2.78	0.18	4.60	2.55	1.05	1.70		
23				1.33	2.73	0.50	4.45	2.53	1.00		1.30	1.45
24				1.45	2.58	0.03	4.40	2.50		1.70		
25	1.70			1.03	2.53	0.30	4.33	2.45	1.00	1.05	1.25	1.50
26				2.00	2.78	0.05	4.18	2.40	1.55	1.05		
27	1.70			1.05	3.08	5.98	4.03	2.38	1.55	1.03	1.25	1.55
28		1.00		1.00	3.18	0.03	3.98	2.30	1.50	1.00		
29			1.70	1.00	3.20	0.10	3.05	2.23	1.50		1.25	1.55
30	1.55			1.89	3.25	0.28	3.05	2.10	1.45			1.00
31					3.20		3.05	2.03		1.00		

**ESTIMATED MONTHLY DISCHARGE  
Of Green River, at Greenriver, Wyo., for 1890.  
(Drainage area, 7,450 square miles.)**

Month.	Discharge in Second-Feet.			Total in Acre-Feet.	Run-Off.	
	Maximum	Minimum	Mean.		Sec.-ft. per Sq. mile.	Depth in Inches.
January	1,990	1,750	1,880	115,597	0.25	0.29
February	2,250	2,120	2,200	122,182	.30	.31
March	2,250	1,530	1,860	114,367	.25	.29
April	2,300	990	1,596	94,969	.21	.23
May	5,690	1,530	3,270	201,064	.44	.51
June	21,384	5,480	12,453	741,005	1.67	1.86
July	20,690	8,883	14,536	893,783	1.95	2.25
August	8,652	2,465	5,169	317,820	.69	.70
September	2,465	1,095	2,063	122,757	.28	.31
October	1,990	1,640	1,822	112,030	.24	.28
November	1,870	1,480	1,702	101,276	.23	.26
December	1,870	1,430	1,680	103,299	.23	.26
The year	21,384	900	4,186	3,040,158	0.56	7.61

**DAILY GAGE HEIGHT**  
Of Green River, at Greenriver, Wyo., for 1900.

DISCHARGE MEASUREMENTS  
Of Green River, at Greenriver, Wyo., in 1901.

Date.	Hydrographer.	Gage height.	Discharge.	
			Feet.	Second-feet.
March 22	A. J. Parshall	.70	543	
April 8	do	.65	505	
April 28	do	2.05	2,039	
May 9	do	2.70	3,438	
May 23	do	5.10	12,048	

DAILY GAGE HEIGHT  
Of Green River, at Greenriver, Wyo., for 1901.

Day.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
1				.70	1.85	4.58	2.88	1.85	1.10	.65		
2				.80	2.07	4.38	2.88	1.85	1.10	.70		
3				.80	2.35	4.25	2.90	1.95	1.05			
4				.70	2.85	4.18	2.83	2.20	1.03			
5				.70	3.03	3.98	2.23	1.95	1.00	.70		
6				.70	2.85	3.75	2.80	1.90	.95			
7				.70	2.70	3.55	2.80	1.82	.95			
8				.70	2.70	3.33	2.70	2.15	.93			
9				.65	2.07	3.15	2.45	1.95	.90			
10				.65	2.73	3.45	2.33	1.75	.85			
11				.70	2.00	3.15	2.50	1.03	.80			
12				.75	3.05	3.10	2.50	1.58				
13				.90	3.30	3.23	2.45	1.58	.80			
14				1.45	3.43	3.05	2.50	1.53	.75			
15				1.80	3.55	3.00	2.53	1.48	.70			
16				2.00	3.73	2.93	2.50	1.40				
17				1.90	3.05	2.78	2.55	1.33				
18				1.50	4.05	2.70	2.50	1.33				
19				1.50	4.40	2.70	2.48	1.30				
20				1.45	4.70	2.08	2.28	1.25				
21				2.15	5.00	2.73	2.08	1.25				
22				2.45	5.20	2.83	2.00	1.35				
23				2.07	5.00	2.03	1.00		.70			
24				2.20	4.72	3.10	1.03	1.35	.98			
25				2.22	4.30	3.23	1.00	1.25	.93			
26				2.15	4.05	3.38	2.10	1.30	.95			
27				2.23	3.93	3.28	1.98	1.25	.70			
28				2.05	3.08	3.18	1.95	1.20	.70			
29				1.90	4.18	3.08	1.00	1.25	.98			
30				1.77	4.45	2.95	1.00	1.13	.95			
31					4.50		1.88	1.10				

**ESTIMATED MONTHLY DISCHARGE**  
**Of Green River, at Greenriver, Wyo., for 1901.**  
 (Drainage area, 7,450 square miles.)

Month.	Discharge in Second-Feet.			Total in Acre-Feet.	Run-Off.	
	Maximum	Minimum	Mean.		Sec.-ft. per Sq. mile.	Depth in Inches.
April	2,880	500	1,325	78,843	.18	.20
May	12,410	1,782	6,753	415,226	.91	1.05
June	10,214	3,405	5,416	322,274	.73	.81
July	4,202	1,845	2,751	169,152	.37	.43
August	2,455	905	1,411	86,759	.19	.22
September	905	500	632	37,607	.08	.09

During 1902 the following discharge measurements were made by A. J. Parshall:

March 31: Gage height, 0.48 feet; discharge, 307 second-feet.

April 9: Gage height, 0.85 feet; discharge, 797 second-feet.

April 18: Gage height, 0.98 feet; discharge, 797 second-feet.

May 3: Gage height, 1.15 feet; discharge, 958 second-feet.

May 28: Gage height, 2.20 feet; discharge, 2,244 second-feet.

**DAILY GAGE HEIGHT**  
 In feet, of Green River, near Greenriver, Wyo., for 1902.

Dey.	April	May	June	July	Aug.	Sept.	Oct.	Nov.
1	.50	1.15	4.12	3.05	1.75	1.10	.55	.45
2	.50	1.15	4.23	3.00	1.70	1.05	.55	—
3	.50	1.20	4.27	2.95	1.67	1.05	.55	—
4	.45	1.15	3.00	2.05	1.60	1.05	.55	—
5	.45	1.10	3.55	2.07	1.55	1.00	.50	—
6	.53	1.05	3.47	2.97	1.58	1.00	.50	—
7	.65	1.00	3.55	2.88	1.50	.97	.50	—
8	.80	1.00	3.07	2.77	1.45	.95	.50	—
9	.95	1.00	3.77	2.98	1.40	.95	.50	—
10	1.00	1.03	3.05	2.57	1.35	.90	.50	—
11	1.00	1.13	4.20	2.48	1.35	.90	.50	—
12	.95	1.38	4.50	2.32	1.30	.80	.50	—
13	.90	1.55	4.75	2.23	1.30	.80	.50	—
14	.90	1.78	4.07	2.12	1.25	.73	.50	—
15	.95	1.88	4.57	2.10	1.30	.72	.50	—
16	1.00	2.08	4.48	2.03	1.30	.75	.50	—
17	.95	2.35	4.25	2.00	1.30	.70	.50	—
18	.95	2.60	3.95	2.05	1.25	.68	.50	—
19	1.10	2.77	3.67	2.12	1.25	.65	.50	—
20	1.25	2.75	3.47	2.15	1.23	.60	.50	—
21	1.40	2.70	3.33	2.15	1.20	.65	.50	—
22	1.40	2.55	3.12	2.10	1.20	1.00	.50	—
23	1.45	2.42	3.07	2.05	1.20	.95	.50	—
24	1.50	2.33	3.00	2.00	1.80	.75	.50	—
25	1.48	2.15	3.03	1.95	2.00	.95	.50	—
26	1.48	2.05	3.13	1.90	2.20	.60	.50	—
27	1.28	2.08	3.17	1.85	2.20	.60	.45	—
28	1.20	2.25	3.25	1.85	2.20	.60	.45	—
29	1.20	2.85	3.25	1.80	1.05	.57	.45	—
30	1.20	3.69	3.12	1.80	1.10	.55	.45	—
31	3.08			1.80	1.10	.45		

**RATING TABLE**  
For Green River, at Greenriver, Wyo., for 1902.

Gage height.	Discharge.	Gage height.	Discharge.	Gage height.	Discharge.	Gage height.	Discharge.
Feet.	Sec.-feet.	Feet.	Sec.-feet.	Feet.	Sec.-feet.	Feet.	Sec.-feet.
.1	30	1.2	1,055	2.3	2,430	3.4	5,822
.2	90	1.3	1,165	2.4	2,630	3.5	6,188
.3	160	1.4	1,275	2.5	2,860	3.6	6,554
.4	240	1.5	1,385	2.6	3,130	3.7	6,920
.5	330	1.6	1,495	2.7	3,410	3.8	7,286
.6	430	1.7	1,605	2.8	3,700	3.9	7,652
.7	530	1.8	1,720	2.9	4,030	4.0	8,018
.8	635	1.9	1,845	3.0	4,375	4.5	8,384
.9	740	2.0	1,975	3.1	4,725	5.0	11,678
1.0	845	2.1	2,110	3.2	5,090		
1.1	950	2.2	2,260	3.3	5,456		

**ESTIMATED MONTHLY DISCHARGE**  
Of Green River, at Greenriver, Wyo., for 1902.  
(Drainage area, 7,450 square miles.)

Month.	Discharge in Second-Feet.			Total in Acre-Feet.	Run-Off.	
	Maximum	Minimum	Mean		Sec.-ft. per Sq. mile.	Depth in Inches.
April	1,385	285	844	50,153	.11	.12
May	7,025	845	2,202	138,845	.30	.35
June	10,763	4,975	7,101	410,000	.05	1.00
July	4,530	1,720	2,073	104,013	.30	.42
August	2,260	650	1,387	83,130	.10	.22
September	950	380	650	38,037	.09	.10
October	380	285	320	20,200	.04	.05
The period	10,703	285	2,178	917,301	.20	3.32

The observations at this station during 1903 have been made under the direction of A. J. Parshall, district hydrographer.

**MEAN DAILY GAGE HEIGHT**  
In feet, of Green River, at Greenriver, Wyo., for 1903.

Day.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.
1		0.75	1.65	2.03	4.18	2.13	1.25
2		1.10	1.53	2.35	4.15	2.03	1.20
3		1.57	1.52	2.85	4.05	2.00	1.15
4		1.70	1.48	3.33	3.85	2.00	1.00
5		1.55	1.42	3.72	3.65	1.98	1.00
6		1.15	1.50	4.15	3.55	1.90	0.97
7		.95	1.45	4.35	3.43	1.87	0.95
8		1.15	1.47	4.52	3.25	1.83	1.10
9		1.40	1.46	4.70	3.10	1.68	1.20
10		1.57	1.55	4.97	3.03	1.65	1.33
11		1.40	1.57	5.17	2.93	1.63	1.25
12		1.20	1.57	5.30	2.88	1.60	2.05
13		1.25	1.53	5.35	2.78	1.60	1.25
14		1.22	1.55	5.35	2.72	1.55	2.70
15		1.10	1.60	5.35	2.70	1.50	2.75
16		1.20	1.65	5.40	2.70	1.48	2.75
17		1.15	2.02	5.40	2.70	1.43	2.60
18		1.27	2.30	5.82	2.75	1.37	2.00
19		1.22	2.40	5.85	2.78	1.35	2.05
20		1.25	2.32	5.37	2.73	1.30	1.47
21		1.22	2.25	5.22	2.63	1.28	1.37
22		1.20	2.17	5.12	2.53	1.25	1.35
23		1.30	2.23	4.87	2.50	1.25	1.35
24		1.37	2.37	4.05	2.50	1.30	1.18
25		1.47	2.33	4.45	2.53	1.30	1.15
26		1.50	2.20	4.25	2.55	1.32	1.02
27		1.55	2.25	4.07	2.48	1.35	1.00
28		1.60	2.17	4.08	2.40	1.40	1.00
29		1.72	2.03	4.10	2.33	1.36	1.00
30		1.82	2.00	4.15	2.28	1.32	1.00
31			2.02		2.28	1.25	1.10

**DISCHARGE MEASUREMENTS**  
Of Green River, at Greenriver, Wyo., in 1904.

Date.	Hydrographer.	Area of section.	Mean velocity.	Gage height.	Discharge.
March 19	A. J. Parshall	Square ft.	ft. per sec.	Feet.	Second-ft.
April 8	do	600	1.82	0.90	923
April 20	do	654	2.11	1.00	1,300
May 10	do	808	3.30	2.85	2,804
May 26	do	1,130	3.70	3.35	4,186
June 4	do	2,150	5.87	5.50	12,010
June 10	do	2,000	5.27	5.00	10,570
June 30	do	2,127	5.54	5.30	11,700
September 20	do	1,042	4.58	4.20	7,523
September 20	do	414	1.52	1.05	631
October 21	do	428	1.48	1.05	635
		430	1.00	1.17	730

**MEAN DAILY GAGE HEIGHT**  
In feet, of Green River, at Greenriver, Wyo., for 1904.

Day.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.
1	1.70	2.98	4.88	4.15	3.12	1.88	1.00
2	1.78	3.00	4.98	4.25	3.10	1.95	1.00
3	1.65	3.08	5.02	4.35	3.02	1.95	.95
4	1.88	3.15	5.00	4.30	2.88	1.95	.98
5	1.75	3.12	4.64	4.15	2.65	1.92	1.02
6	1.90	3.05	4.35	4.10	2.62	1.82	1.08
7	1.98	3.08	4.20	4.10	2.52	1.68	1.15
8	1.65	3.20	4.28	4.02	2.48	1.60	1.20
9	1.40	3.12	4.58	4.00	2.42	1.52	1.20
10	1.38	2.85	4.90	3.92	2.40	1.48	1.25
11	1.50	2.72	4.80	3.82	2.35	1.45	1.28
12	1.92	2.05	4.02	3.72	2.35	1.40	1.32
13	2.35	3.05	5.05	3.70	2.40	1.38	1.38
14	2.40	3.10	4.98	3.68	2.40	1.35	1.32
15	2.62	3.15	4.00	3.62	2.50	1.30	1.25
16	2.70	3.30	5.02	3.50	2.48	1.30	1.20
17	2.35	3.48	5.18	3.42	2.40	1.25	1.18
	2.30	3.60	5.25	3.38	2.35	1.25	1.15
19	2.28	3.75	6.30	3.30	2.32	1.20	1.15
20	2.38	3.92	5.30	3.22	2.28	1.20	1.15
21	2.58	4.25	5.30	3.20	2.26	1.20	1.15
22	2.80	4.75	5.38	3.15	2.25	1.18	1.15
23	2.56	4.80	5.42	3.10	2.22	1.15	1.15
24	2.38	4.82	5.45	3.10	2.18	1.15	1.15
25	2.30	5.20	5.45	3.22	2.08	1.10	1.15
26	2.12	5.65	5.22	3.30	2.02	1.10	1.12
27	2.30	5.70	4.88	3.35	2.02	1.05	1.10
28	2.52	5.35	4.52	3.30	1.02	1.00	1.10
29	2.80	4.70	4.30	3.22	1.85	1.00	1.10
30	3.15	4.58	4.12	3.18	1.85	1.00	1.10
31		4.72		3.15	1.80		1.10

**RATING TABLE**  
For Green River, at Greenriver, Wyo., from April 1 to July 15, 1904.

Gage height.	Discharge.	Gage height.	Discharge.	Gage height.	Discharge.	Gage height.	Discharge.
Feet.	Sec.-feet.	Feet.	Sec.-feet.	Feet.	Sec.-feet.	Feet.	Sec.-feet.
1.30	1,110	2.50	2,300	3.70	5,510	4.00	10,100
1.40	1,170	2.00	2,103	3.80	5,020	5.00	10,480
1.60	1,235	2.70	2,045	3.00	6,300	5.10	10,800
1.00	1,306	2.80	2,840	4.00	6,080	5.20	11,240
1.70	1,380	2.00	3,050	4.10	7,000	5.30	11,020
1.80	1,400	3.00	3,280	4.20	7,440	5.40	12,000
1.00	1,550	3.10	3,530	4.30	7,820	5.50	12,380
2.00	1,650	3.20	3,800	4.40	8,200	5.60	12,700
2.10	1,700	3.30	4,005	4.50	8,580	5.70	13,140
2.20	1,880	3.40	4,420	4.00	8,900		
2.30	2,010	3.50	4,780	4.70	9,310		
2.40	2,150	3.00	5,100	4.80	9,720		

The above table is applicable only for open-channel conditions. It is based upon 8 discharge measurements made during 1904. It is well defined between

gage heights 1.30 feet and 5.50 feet. The table has been extended above gage height 5.50 feet. Above gage height 3.50 feet the rating curve is a tangent, the difference being 380 per tenth.

RATING TABLE  
For Green River, at Greenriver, Wyo., from July 16 to October 31, 1904.

Gage height. Feet.	Dis-charge. Sec.-feet.						
0.90	575	1.40	855	2.20	1,730	2.90	2,970
0.95	597	1.50	930	2.30	1,870	3.00	3,210
1.00	620	1.60	1,015	2.40	2,020	3.10	3,470
1.05	645	1.70	1,115	2.50	2,180	3.20	3,750
1.10	670	1.80	1,225	2.60	2,355	3.30	4,000
1.15	697	1.90	1,340	2.70	2,545	3.40	4,400
1.20	725	2.00	1,465	2.80	2,750	3.50	4,780
1.30	785	2.10	1,595				

The above table is applicable only for open-channel conditions. It is based upon 9 discharge measurements made during 1904, and is well defined.

ESTIMATED MONTHLY DISCHARGE,  
Of Green River, at Greenriver, Wyo., for 1904,  
(Drainage area, 7,450 square miles.)

Month,	Discharge in Second-Foots,			Total in Acre-Feet,	Run-Off,	
	Maximum	Minimum,	Mean,		Sec.-ft. per Sq. mile,	Depth in Inches,
April -----	3,065	1,155	1,058	110,500	.263	0.203
May -----	13,140	2,004	4,131	377,000	.823	.040
June -----	12,100	7,155	10,180	405,500	1.37	1.53
July -----	8,010	3,470	5,255	323,100	.703	.813
August -----	8,510	1,225	2,010	125,400	.274	.310
September ---	1,402	620	800	52,000	.110	.133
October -----	838	607	608	42,020	.004	.108
The period.	13,140	607	3,870	1,043,000	.521	4.14

DISCHARGE MEASUREMENTS  
Of Green River, at Greenriver, Wyo., In 1905.

Date.	Hydrographer.	Width.	Area of section.	Mean velocity.	Gage height.	Discharge.
		Feet.	Square feet.	Ft. per second.	Feet.	Second-feet.
March 26	A. J. Parshall	164	470	1.53	0.88	718
April 6	do	163	470	1.22	.85	573
April 10	do	164	535	1.67	1.15	894
April 28	do	170	644	2.13	1.70	1,374
May 18	do	166	540	1.58	1.15	854
May 28	do	234	907	2.81	2.35	2,546
June 12	do	280	1,702	4.46	4.00	7,500
June 25	do	284	1,258	3.71	3.03	4,066
June 29	do	284	1,353	3.78	3.25	5,116
July 25	do	240	919	2.60	2.30	2,392
August 6	do	170	683	2.03	1.70	1,389
August 16	do	166	621	1.77	1.40	1,103
September 8	do	164	562	1.35	1.00	759
September 23	do	159	495	.90	.55	445
October 20	do	160	500	.93	.65	476

DAILY GAGE HEIGHT  
In feet, of Green River, at Greenriver, Wyo., for 1905.

Day.	Apr.	May.	June.	July.	Aug.	Sept..	Oct.
1	.08	1.42	2.05	3.4	1.05	1.2	.7
2	.85	1.45	2.08	3.3	1.0	1.2	.75
3	.8	1.55	2.85	3.32	1.82	1.2	.8
4	.82	1.72	3.12	3.22	1.8	1.2	.78
5	.85	1.8	3.48	3.08	1.75	1.25	.75
6	.88	1.78	3.7	3.02	1.7	1.28	.72
7	.05	1.7	3.05	2.05	1.05	1.22	.7
8	.02	1.03	3.78	2.88	1.05	1.2	.7
9	.05	1.58	3.7	2.82	1.6	1.15	.05
10	1.05	1.55	3.95	2.8	1.58	1.1	.05
11	1.22	1.5	4.08	2.72	1.55	1.02	.05
12	1.25	1.45	3.05	2.05	1.5	.92	.0
13	1.2	1.35	3.72	2.02	1.45	.82	.0
14	1.15	1.3	3.48	2.7	1.45	.75	.0
15	1.15	1.22	3.05	2.72	1.45	.72	.0
16	1.15	1.18	3.0	2.75	1.38	.7	.0
17	1.2	1.1	4.0	2.76	1.32	.05	.0
18	1.2	1.15	4.0	2.78	1.28	.05	.0
19	1.2	1.3	4.28	2.72	1.2	.05	.58
20	1.25	1.5	3.05	2.08	1.15	.0	.55
21	1.28	1.08	3.6	2.6	1.3	.0	.55
22	1.3	1.72	3.23	2.55	1.2	.55	.55
23	1.28	1.88	3.03	2.45	1.2	.55	.55
24	1.29	1.98	3.0	2.42	1.2	.55	.55
25	1.35	2.3	3.02	2.32	1.25	.5	.55
26	1.42	2.3	3.1	2.22	1.2	.5	.52
27	1.52	2.3	3.15	2.2	1.2	.5	.5
28	1.59	2.42	3.22	2.16	1.15	.55	.5
29	1.0	2.69	3.82	2.12	1.2	.58	.5
30	1.55	2.72	3.4	2.08	1.2	.02	.55
31			2.75	2.0	1.2		.55

**STATION RATING TABLE**  
**For Green River, at Greenriver, Wyo., from April 1 to October 31, 1905.**

Gage height. Feet.	Dis-charge. Sec.-feet.	Gage height. Feet.	Dis-charge. Sec.-feet.	Gage height. Feet.	Dis-charge. Sec.-feet.	Gage height. Feet.	Dis-charge. Sec.-feet.
0.50	420	1.50	1,160	2.50	2,910	3.50	5,020
.60	475	1.60	1,265	2.60	3,180	3.60	6,250
.70	535	1.70	1,380	2.70	3,460	3.70	6,685
.80	600	1.80	1,510	2.80	3,745	3.80	6,920
.90	670	1.90	1,655	2.90	4,035	3.90	7,255
1.00	745	2.00	1,815	3.00	4,330	4.00	7,590
1.10	820	2.10	1,995	3.10	4,635	4.10	7,930
1.20	900	2.20	2,195	3.20	4,945	4.20	8,270
1.30	980	2.30	2,415	3.30	5,265	4.30	8,610
1.40	1,065	2.40	2,055	3.40	5,590		

Note.—The above table is applicable only for open-channel conditions. It is based on 15 discharge measurements made during 1905, and is well defined.

**ESTIMATED MONTHLY DISCHARGE**  
**Of Green River, at Greenriver, Wyo., for 1905.**  
(Drainage area, 7,450 square miles.)

Month.	Discharge in Second-Feet.			Total in Acre-Feet.	Run-Off.	
	Maximum	Minimum	Mean		Sec.-ft. per Sq. mile,	Depth in Inches.
April	1,205	000	883	52,510	0.110	0.133
May	3,602	820	1,682	17,270	.212	.244
June	8,642	3,320	5,017	353,000	.708	.800
July	5,500	1,815	3,450	212,700	.461	.535
August	1,735	800	1,123	69,000	.151	.174
September	064	420	030	38,020	.086	.000
October	000	420	480	20,890	.006	.075
The period	8,642	420	2,017	863,800	.271	2.15

**MONTHLY DISCHARGE**  
 In thousands of acre-feet of Green River, at Greenriver, Wyo.  
 (Drainage area, 7,450 square miles.)

Year.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Run-Off.			
													Sec. Ft.	Depth in per Sq. Ml.		
1885						243.98	270.57	233.27	104.78	37.96	29.02	45.00	-----	-----	-----	
1896						60.00	151.34	700.30	258.22	51.71	22.17	47.60	66.41	-----	-----	
1897	110.77	105.52	116.83	116.51	600.68	449.14	171.80	90.37	27.49	62.29	45.22	36.89	1,941.60	0.36	4.89	
1898	115.60	122.18	114.37	94.97	201.06	158.32	249.53	539.24	284.08	87.13	38.44	21.34	24.10	52.20	-----	-----
1899	115.60	122.18	114.37	94.97	201.06	741.01	892.78	317.83	127.76	112.03	101.28	103.30	3,040.16	.056	7.64	
1900	—	—	—	—	—	73.54	415.23	322.27	160.15	86.76	37.61	-----	-----	-----	-----	-----
1901	—	—	—	—	—	50.15	138.55	420.00	164.04	85.13	38.94	20.21	-----	-----	-----	-----
1902	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
1903	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
1904	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
1905	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mean	113.19	113.55	115.60	91.00	276.41	456.15	305.27	134.83	56.97	38.78	47.44	60.76	*1,840.25	#0.34	+4.59	

f Mean of monthly mean values.

\*Sum of monthly mean values.

### **Green River at Jensen, Vernal, Utah.**

This station was established November 7, 1903, by H. S. Reed. It is located about 300 feet below Billings Ferry and about 15 miles from Vernal, Utah. It is  $1\frac{1}{2}$  miles below the mouth of Brush Creek and 3 miles above the mouth of Ashley Creek. The gage is a vertical 2 by 5 inch timber 10 feet long, braced to a cottonwood tree about 10 feet from the edge of the river. It is read twice each day by Victor Billings. Discharge measurements are made from the ferryboat. The initial point for soundings is the post on the right bank to which the ferry cable is attached. The channel is straight for 1,000 feet above and below the station. The right bank is high, is composed of gravel, and will not overflow. The left bank is low and sandy, and covered with underbrush. The bed of the stream is sandy and shifting. There is but one channel at all stages. Bench mark No. 1 is a 40-penny spike driven into the cottonwood tree to which the gage is attached. Its elevation is 10.66 feet above the zero of the gage. Bench mark No. 2 is a 40-penny spike driven into the southwest corner of Mr. Billings' grain house about 3 feet above the ground. Its elevation is 25.67 feet above the zero of the gage.

Information in regard to this station is contained in the following Water-Supply Papers of the United States Geological Survey:

- Description: 100, pp 123-124; 133, p 56.
- Discharge: 100, p 124; 133, p 57.
- Discharge, monthly: 133, p 58.
- Gage heights: 100, p 124; 133, p 57.
- Rating table: 133, p 58.

The observations at this station during 1903 have been made under the direction of H. S. Reed, district hydrographer.

The following discharge measurement was made by H. S. Reed in 1903:  
November 10: Gage height, 2.45 feet; discharge, 1,453 second-feet.

**MEAN DAILY GAGE HEIGHT**  
In feet, of Green River, at Jensen, Utah, for 1903.

Day.	Nov.	Dec.	Day.	Nov.	Dec.	Day.	Nov.	Dec.	
1	2.50	12	2.45	2.66	23		2.05	2.03	
2	2.49	13	2.31	2.66	24		2.13	2.60	
3	2.49	14	2.36	2.70	25		2.17	2.54	
4	2.39	15	2.40	2.55	26		2.31	2.54	
5	2.43	16	2.45	2.53	27		2.33	2.58	
6	2.48	17	2.30	2.60	28		2.36	2.60	
7	2.50	3.33	18	2.21	2.43	29		2.38	2.58
8	2.51	3.03	19	2.15	2.60	30		2.53	2.56
9	2.50	3.13	20	1.93	2.65	31		2.58	
10	2.50	3.03	21	1.78	2.57				
11	2.47	2.70	22	1.95	2.59				

The observations at this station during 1904 have been made under the direction of H. S. Reed, resident hydrographer.

**DISCHARGE MEASUREMENTS**  
Of Green River at Jensen, Utah, in 1903 and 1904.

Date.	Hydrographer.	Area of section.	Mean velocity.	Gage height.	Discharge.
		Square ft.	Ft. per sec.	Feet.	Second-st.
1903 November 10	H. S. Reed-----	654	2.22	2.45	1,453
1904 March 31 -----	H. S. Reed-----	1,273	2.10	3.25	2,070
April 28 -----	do-----	2,585	3.30	5.78	8,630
May 25 -----	do-----	5,310	5.14	10.75	27,200
August 8*-----	do-----	1,070	1.83	3.45	3,050

\*Made from cable and ear.

**MEAN DAILY GAGE HEIGHT,**  
**In feet, of Green River, at Jensen, Utah, for 1904.**

Day.	Jan.*	Feb.*	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
1			4.24	3.32	7.00	10.35	7.25	4.32	2.85	1.63	2.11	1.65
2			4.05	3.42	7.50	10.25	7.18	4.21	2.75	1.62	2.11	1.60
3			3.95	3.55	7.64	10.50	7.15	4.12	2.71	1.64	2.10	1.65
4			3.88	3.90	7.96	10.40	7.10	4.02	3.05	1.65	2.00	1.80
5			3.26	4.30	7.90	10.40	7.08	3.86	3.00	1.63	2.05	1.35
6			3.22	4.45	7.58	10.40	7.02	3.72	2.90	1.68	2.05	.93
7			3.05	4.45	7.82	9.68	7.00	3.58	2.85	2.08	1.99	1.08
8			3.00	4.41	8.02	9.58	7.00	3.48	2.72	1.79	1.83	1.20
9			3.00	4.48	8.35	9.45	6.90	3.40	2.04	1.71	1.65	1.30
10			3.10	4.35	8.02	9.60	6.90	3.36	2.45	1.72	1.63	1.41
11			3.16	4.18	7.65	10.10	6.80	3.33	2.35	1.60	1.58	1.45
12			3.50	4.02	7.03	9.95	6.38	3.30	2.20	1.61	1.55	1.50
13			3.78	4.14	7.89	10.05	6.06	3.26	2.04	1.69	1.48	1.45
14			3.82	4.72	7.90	10.28	5.95	3.18	2.01	1.88	1.60	1.45
15			3.05	5.40	8.10	10.20	5.90	3.08	2.00	2.20	1.50	1.50
16			3.00	5.85	8.52	10.12	5.80	3.10	1.90	2.58	1.00	1.45
17			3.81	6.10	8.03	10.02	5.70	3.40	1.93	2.70	1.60	1.60
18			3.82	6.55	8.08	9.98	5.70	3.40	1.80	2.58	1.65	1.62
19			3.78	6.68	9.01	9.92	5.60	3.45	1.82	2.42	1.55	1.05
20			3.06	6.78	9.12	9.70	5.60	3.50	1.72	2.40	1.50	1.71
21			3.72	6.84	9.00	9.90	5.54	3.50	1.00	2.30	1.60	1.70
22			4.02	6.88	10.00	9.82	5.50	3.45	1.01	2.34	1.65	1.04
23			4.58	6.02	10.30	9.72	5.47	3.42	1.00	2.28	1.65	2.00
24			2.83	4.62	0.05	10.65	0.00	5.41	3.41	1.00	2.10	1.65
25			3.10	4.35	0.52	10.82	0.50	5.40	3.40	1.08	2.15	1.50
26			3.70	4.10	0.15	11.12	0.38	5.40	3.38	1.00	2.10	1.58
27			4.00	3.83	5.02	11.52	0.15	5.26	3.30	1.02	2.12	1.60
28			4.38	3.22	5.76	11.65	8.85	5.15	3.24	1.00	2.12	1.01
29			4.31	3.21	5.02	11.80	8.28	4.86	3.20	1.00	2.06	1.00
30			3.20	6.40	11.78	7.38	4.70	3.05	1.00	2.12	1.00	-----
31			3.28	-----	10.05	-----	4.65	2.98	-----	2.13	-----	-----

\*River frozen over from January 1 to February 23.

†River frozen over, December 25 to 31.

**RATING TABLE**  
For Green River, at Jensen, Utah, from November 7, 1903, to December 31, 1904.

Gage height.	Discharge	Gage height.	Discharge.	Gage height.	Discharge.	Gage height.	Discharge.
Feet.	Sec.-feet.	Feet.	Sec.-feet.	Feet.	Sec.-feet.	Feet.	Sec.-feet.
1.20	400	2.60	1,660	4.30	4,800	7.00	12,380
1.25	430	2.70	1,805	4.40	5,040	7.20	13,060
1.30	460	2.80	1,955	4.50	5,280	7.40	13,740
1.35	495	2.90	2,110	4.60	5,520	7.60	14,440
1.40	530	3.00	2,270	4.70	5,760	7.80	15,160
1.45	565	3.10	2,430	4.80	6,000	8.00	15,890
1.50	600	3.20	2,600	4.90	6,240	8.20	16,650
1.60	670	3.30	2,780	5.00	6,480	8.40	17,410
1.70	740	3.40	2,960	5.20	7,000	8.60	18,200
1.80	820	3.50	3,140	5.40	7,520	8.80	19,000
1.90	900	3.60	3,320	5.60	8,080	9.00	19,800
2.00	980	3.70	3,520	5.80	8,640	9.50	21,900
2.10	1,070	3.80	3,720	6.00	9,200	10.00	24,000
2.20	1,170	3.90	3,920	6.20	9,800	10.50	26,200
2.30	1,280	4.00	4,140	6.40	10,440	11.00	28,400
2.40	1,400	4.10	4,360	6.60	11,080	11.50	30,700
2.50	1,525	4.20	4,580	6.80	11,720		

The above table is applicable only for open-channel conditions. It is based upon 5 discharge measurements made during 1903 and 1904. It is fairly well defined between gage heights 2.45 feet and 10.75 feet. The table has been extended beyond these limits.

**ESTIMATED MONTHLY DISCHARGE**  
Of Green River at Jensen, Utah, for 1903 and 1904.  
(Drainage area, 20,020 square miles.)

Month.	Discharge in Second-Feet.			Total in Acre Feet.	Run-Off.	
	Maximum.	Minimum.	Mean.		Sec.-ft. per Sq. mile.	Depth in Inches.
<b>1903.</b>						
November 7-30-	1,661	852	1,202	61,500	0.040	0.044
December -----	2,834	1,338	1,726	100,100	.005	.075
<b>1904.</b>						
February 24-20-	4,002	2,000	3,881	40,180	0.140	0.033
March -----	6,288	2,270	3,517	218,100	.133	.153
April -----	12,210	2,810	7,583	461,200	.285	.318
May -----	32,080	12,380	20,400	1,254,000	.706	.883
June -----	20,200	13,070	23,000	1,309,000	.864	.064
July -----	13,230	5,400	9,485	583,200	.356	.410
August -----	4,848	2,238	3,103	100,800	.117	.136
September -----	2,350	670	1,214	72,240	.040	.051
October -----	1,805	670	1,011	61,010	.030	.045
November -----	1,080	586	745	44,330	.028	.031
December 1-24-	690	230	630	30,420	.024	.021
The period.	32,080	230	0.215	4,323,000	.234	3.14

**DAILY GAGE HEIGHT**  
In feet, of Green River, at Jensen, Utah, for 1905.

### Ashley Creek near Vernal, Utah.

This stream drains an area directly east of the Uinta basin. The station was established March 15, 1900, by C. T. Prall. The river emerges from its canyon about  $7\frac{1}{2}$  miles north of Vernal, Utah. The station is located near this point, at the highway bridge leading by the farm of the gage reader. The station is one mile below the mouth of Dry Fork and is above the series of canals by which Vernal Valley is irrigated. The gage is a vertical 1 by 5-inch board, 10 feet long, fastened to overhanging trees on the right bank just above the bridge. It is read twice each day by E. Marett. Discharge measurements are made at high water from the bridge and at ordinary stages by wading. The initial point for soundings is on the right bank. The channel is straight for 200 feet above and below the station. The current is swift. The right bank is high, not liable to overflow, and covered with trees. The left bank is low, covered with underbrush, and is subject to overflow at flood stages, at which time there are two or three channels. The bed of the stream is rough and rocky, and is not subject to change. The bench mark is a large nail, about which are driven three smaller nails, in a stump 50 feet west of the bridge. Its elevation is 7.21 feet above the zero of the gage.

The three principal canals diverting water from Ashley Creek below the gaging station are, in order downstream, Upper Ashley canal, Rock Point canal, and Central Ashley canal.

#### DISCHARGE MEASUREMENTS Of Ashley Creek near Vernal, Utah, 1900.

Date.	Hydrographer.	Gage height. Foot.	Discharge Second-ft.
February 8.....			34
March 15.....		.48	37
May 1.....		.02	45
May 28.....		3.20	770
July 23.....		0.07	72
July 23.....		.07	83
August 21.....		.00	40
November 12.....		.56	47

**DAILY GAGE HEIGHT.**  
Of Ashley Creek, near Vernal, Utah, for 1900.

Day.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
1				.48	.60	2.45	0.95	.65	.55	.70	0.60	.55
2				.49	.65	2.40	.95	-----	.55	.65	-----	
3				.49	.63	2.25	.90	-----	.50	-----	-----	
4				.50	.70	2.40	-----	-----	-----	.65	-----	
5				.49	.98	2.00	-----	-----	-----	.60	-----	
6				.49	1.20	1.85	-----	-----	-----	-----	0.60	
7				.48	1.20	1.70	.90	-----	-----	.60	.55	
8				.49	1.50	1.65	.85	-----	-----	.65	-----	
9				.53	2.20	1.70	-----	-----	.50	.60	-----	
10				.50	2.50	1.70	-----	-----	.58	-----	-----	
11					2.85	1.75	-----	.65	.65	-----	-----	
12					2.50	1.65	-----	.65	.60	-----	-----	
13					2.25	1.55	-----	-----	.60	-----	-----	
14					2.05	1.50	-----	.60	.55	-----	.65	
15					2.20	1.45	-----	.55	-----	-----	.50	
16					2.50	1.43	-----	-----	-----	-----	-----	
17					2.50	1.40	.85	-----	-----	-----	.55	
18				.48	2.45	1.35	.80	-----	-----	-----	.00	
19					2.30	1.20	.80	-----	-----	-----	-----	
20					2.20	-----	.75	.55	-----	-----	-----	
21				.48	.50	2.35	-----	.75	.60	.55	-----	.00
22				.49	.53	2.00	1.20	.70	-----	.60	-----	.05
23				.50	.03	3.00	1.15	-----	-----	.60	-----	
24				.50	.00	3.20	1.10	-----	-----	.75	-----	.05
25				.40	-----	3.25	1.05	-----	-----	.70	-----	.00
26				.40	-----	3.30	1.00	-----	-----	.65	-----	
27				.48	-----	3.45	-----	-----	-----	.70	-----	.00
28					.60	3.35	-----	-----	-----	.70	-----	.55
29					.05	3.15	-----	-----	-----	.05	-----	
30					.05	2.80	1.00	-----	-----	.05	-----	.55
31				.48	-----	2.05	-----	.70	.00	-----	.60	-----

**ESTIMATED MONTHLY DISCHARGE**  
Of Ashley Creek, near Vernal, Utah, for 1900.  
(Drainage Area 250 Square Miles.)

Month	Discharge in Second-Foot			Total in acre-feet	Run-off	
	Maximum	Minimum	Mean		Second-foot per square mile	Depth in inches
January	-----	-----	35	2,152	0.14	0.10
February	-----	-----	35	1,044	.14	.15
March 16-31	37	37	37	2,276	.15	.17
April	40	37	40	2,380	.10	.18
May	850	43	478	20,031	1.01	2.20
June	534	112	245	14,578	0.09	0.00
July	102	55	74	4,630	.30	.35
August	49	49	45	2,767	.18	.21
September	01	17	13	2,659	.17	.10
October	55	43	44	2,705	.18	.21
November	40	40	42	2,490	.17	.10
December	40	37	38	2,337	.16	.17
The year	850	37	60	70,137	0.30	5.27

**DISCHARGE MEASUREMENTS**  
Of Ashley Creek near Vernal, Utah, 1901.

Date.	Hydrographer.	Gage height. Feet.	Discharge Second-ft.
May 30.....	C. T. Prall.....	2.48	484
June 21.....	do.....	1.23	155
August 21.....	do.....	1.15	154
October 30.....	do.....	0.78	74

**DAILY GAGE HEIGHT**  
Of Ashley Creek, near Vernal, Utah, for 1901.

Day.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
1 .....	0.50	0.50	0.55	0.45	3.15	2.25	1.15	0.80	1.10	0.80	0.75	.65
2 .....					2.85	2.15	1.15	.80				.65
3 .....					2.20	2.05	1.10	.90	1.10			.68
4 .....					2.00	1.05		1.10	1.05			.70
5 .....			.55		1.05	1.85	1.10	.95				
6 .....			.60		2.10	1.75	1.00	2.35	1.05			
7 .....			.60		2.30	1.00		1.20	1.05	0.80		
8 .....			.55		2.40	1.05		1.40	1.00	0.76		
9 .....			.55		2.85	1.60	1.00	1.20				
10 .....		0.50	.50		3.10	1.58	0.95	1.15				
11 .....		.48		.45	3.15		1.00	1.10				
12 .....				.47	3.05							
13 .....			.60	.48		1.68				0.75		
14 .....			.48	.60	3.05	1.55			1.00	.70		
15 .....					3.25	1.60	1.00	1.10	.90			
16 .....					4.15	1.43	.95	1.08	.90			
17 .....					4.25	1.40	.95	1.13	.85			
18 .....					4.05	1.40	.80	1.05	.85			
19 .....					4.15	1.35	.80	1.85	.85		.75	.70
20 .....					.50	3.85	1.30	.80	1.35	.80		.70
21 .....					.65	3.40	1.25	.95	1.20			
22 .....					.58	3.00	1.23	.80	1.15			
23 .....					.80	2.70	1.20		1.10		.70	
24 .....					1.30	2.65	1.20	.80			.65	
25 .....					1.80	2.03		1.05	1.10			
26 .....					2.05	2.80		.85	1.05		.70	
27 .....					1.85	2.05		.80	1.10		.80	
28 .....					2.03	2.00					.75	
29 .....					2.65	2.75	1.20					
30 .....					3.00	2.65	1.15			.80	.65	
31 .....	0.60		.48		2.40		.80	1.10		.75		.65

**ESTIMATED MONTHLY DISCHARGE  
Of Ashley Creek near Vernal, Utah, for 1901.  
(Drainage Area 250 Square Miles.)**

Month	Discharge in Second-Feet			Total in Acre-Feet	Run-off	
	Maximum	Minimum	Mean		Second- feet per square mile	Depth in inches
January -----	36	36	36	2,214	.14	.16
February -----	43	36	36	1,099	.14	.15
March -----	55	34	37	2,275	.15	.17
April -----	864	34	122	7,260	.49	.55
May -----	1,136	354	683	41,906	2.73	3.15
June -----	460	141	232	13,805	.03	1.04
July -----	141	72	100	6,149	.40	.46
August -----	932	72	149	9,162	.60	.69
September -----	131	72	96	5,712	.38	.42
October -----	72	55	62	3,812	.25	.29
November -----	63	48	58	3,451	.23	.26
December -----	55	48	52	3,197	.21	.24
The year -----	1,136	34	130	101,032	.55	7.58

**DISCHARGE MEASUREMENTS.  
Of Ashley Creek near Vernal, Utah, 1902.**

Date.	Hydrographer.	Gage height, Feet.	Discharge Second-ft.
March 14-----	C. T. Prall-----	0.00	40.0
July 10-----	H. S. Reed-----	1.00	104.0
November 6-----	do -----	.00	40.0
December 12-----	do -----	.00	40.0

**DAILY GAGE HEIGHT**  
In feet, of Ashley Creek near Vernal, Utah, 1902.

Day.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
1	.65	.60	.60	.55	1.95	2.80	1.28	.75	.70	.70	.65	.60
2	.60	.60	.60	.55	2.55	2.45	1.25	.70	.70	.70	.60	.60
3	.60	.60	.60	.55	2.45	2.35	1.20	.70	.70	.70	.60	.60
4	.60	.60	.60	.55	2.30	2.30	1.20	.70	.70	.70	.60	.60
5	.60	.60	.60	.55	2.20	2.30	1.20	.70	.70	.70	.60	.60
7	.60	.60	.60	.60	2.10	2.10	1.15	.70	.65	.70	.60	.60
8	.60	.60	.60	.63	2.30	2.05	1.10	.70	.65	.70	.60	.60
9	.60	.60	.60	.65	2.50	2.03	1.10	.70	.65	.70	.60	.60
10	.60	.60	.60	.65	2.50	1.95	1.10	.70	.65	.70	.60	.60
11	.60	.60	.60	.65	2.60	1.95	1.05	.70	.60	.70	.70	.60
12	.60	.60	.60	.63	2.55	1.00	1.05	.73	.60	.70	.70	.60
13	.60	.60	.60	.60	2.60	1.88	1.00	.75	.60	.70	.65	.60
14	.60	.60	.60	.60	3.05	1.73	1.00	.75	.60	.65	.60	.60
15	.60	.60	.60	.60	2.90	1.68	1.00	.70	.60	.65	.60	.60
16	.60	.60	.55	.60	2.95	1.65	1.00	.70	.60	.65	.60	.00
17	.60	.60	.55	.63	2.85	1.60	1.00	.70	.60	.65	.60	.00
18	.60	.60	.55	.75	2.40	1.55	1.00	.70	.60	.65	.60	.60
19	.60	.60	.55	1.25	2.20	1.50	1.00	.70	.60	.65	.60	.60
20	.00	.00	.55	1.30	2.10	1.45	.05	.70	.70	.65	.00	.00
21	.00	.00	.55	1.10	2.00	1.45	.05	.70	.80	.65	.00	.00
22	.00	.00	.55	.98	1.00	1.38	.00	.70	.75	.65	.00	.00
23	.00	.00	.55	.85	1.80	1.33	.00	.70	.70	.65	.00	.00
24	.00	.00	.55	.80	1.80	1.30	.85	.70	.70	.65	.00	.00
25	.00	.00	.55	.80	1.80	1.30	.85	.70	.70	.65	.00	.00
26	.00	.00	.55	.73	2.25	1.25	.80	.70	.70	.65	.00	.00
27	.00	.00	.55	.83	3.15	1.20	.80	.70	.70	.65	.00	.00
28	.00	.00	.55	.95	3.50	1.20	.80	.70	.70	.65	.00	.00
29	.00	---	---	.65	1.40	3.25	1.80	.80	.70	.70	.05	.00
30	.00	---	---	.65	1.80	2.95	1.80	.80	.70	.70	.05	.00
31	.00	---	---	.65	3.00	---	.75	.70	---	.65	---	.00

RATING TABLE  
For Ashley Creek near Vernal, Utah, for 1902.

Gage height	Discharge	Gage height	Discharge	Gage height	Discharge	Gage height	Discharge
Foot	Second-foot	Foot	Second-foot	Foot	Second-foot	Foot	Second-foot
0.5	37	1.4	202	2.3	474	3.2	774
.6	45	1.5	230	2.4	500	3.3	810
.7	55	1.6	268	2.5	538	3.4	840
.8	60	1.7	280	2.6	570	3.5	882
.9	85	1.8	315	2.7	602	3.6	918
1.0	100	1.9	340	2.8	636	3.7	954
1.1	128	2.0	378	2.9	670	3.8	990
1.2	152	2.1	410	3.0	704		
1.3	170	2.2	442	3.1	738		

**ESTIMATED MONTHLY DISCHARGE  
Of Ashley Creek near Vernal, Utah, 1902.  
(Drainage area, 250 square miles.)**

Month	Discharge in second-feet			Total in Acre-feet	Run-off	
	Maximum	Minimum	Mean		Sec.-feet per sq. mile	Depth in inches
January -----	50	45	45	2,777	0.18	0.21
February -----	45	45	45	2,498	.18	.19
March -----	45	40	42	2,608	.17	.20
April -----	315	40	78	4,065	.31	.35
May -----	882	315	533	32,765	2.13	2.46
June -----	636	152	306	18,226	1.22	1.36
July -----	164	62	108	6,627	.43	.50
August -----	62	55	56	3,429	.22	.25
September -----	69	45	52	3,096	.21	.23
October -----	55	50	52	3,103	.21	.24
November -----	55	45	46	2,737	.18	.20
December -----	45	45	45	2,767	.18	.21
The year-----	882	40	117	85,298	.47	0.40

The observations at this station during 1903 have been made under the direction of H. S. Reed, district hydrographer.

**DISCHARGE MEASUREMENTS  
Of Ashley Creek near Vernal, Utah, 1903.**

Date,	Hydrographer,	Gage height, Feet.	Discharge Second-ft.
January 31-----	H. S. Reed-----	1.00	30
May 12-----	do -----	2.40	500
April 12-----	do -----	.00	41
June 8-----	do -----	4.23	1,085
August 24-----	do -----	1.80	87
September 23-----	do -----	1.75	74
November 9-----	do -----	1.00	52

\*Gage reading in error owing to ice.

**MEAN DAILY GAGE HEIGHT.**  
In feet, of Ashley Creek near Vernal, Utah, for 1903.

Day.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
1	.60	.60	.55	.75	1.85	3.80	2.45	2.00	1.70	1.60	1.70	1.40
2	.60	.60	.55	.63	1.70	3.95	2.40	2.00	1.70	1.90	1.70	1.40
3	.60	.60	.55	.60	1.95	4.40	2.40	2.00	1.70	1.95	1.60	1.40
4	.60	.60	.55	.60	2.05	4.10	2.40	1.90	1.70	1.80	1.60	1.40
5	.60	.60	.50	.75	2.25	3.95	2.40	1.00	1.70	1.80	1.60	1.40
6	.60	.60	.50	.63	2.40	4.10	2.40	1.90	2.00	1.80	1.60	1.40
7	.60	.60	.50	.60	2.35	4.65	2.60	1.90	1.85	1.80	1.60	1.40
8	.60	.60	.50	.60	2.35	4.60	2.40	1.00	1.70	1.80	1.60	1.40
9	.60	.60	.50	.60	2.35	4.50	2.30	1.90	1.70	1.80	1.60	1.40
10	.60	.60	.50	.65	2.45	3.90	2.30	1.90	1.70	1.80	1.60	1.40
11	.60	.60	.50	.60	2.60	3.90	2.30	1.90	1.70	1.80	1.60	1.40
12	.60	.60	.50	.60	2.70	4.05	2.30	1.90	1.70	1.70	1.60	1.40
13	.60	.60	.50	.60	3.05	4.05	2.20	1.90	1.70	1.70	1.60	1.40
14	.60	.60	.60	.60	3.60	3.80	2.20	1.90	1.70	1.70	1.60	1.40
15	.60	*2.00	.50	.60	3.75	3.85	2.20	1.90	1.70	1.70	1.60	1.40
16	.60	*2.00	.50	.60	3.75	3.70	2.40	1.90	1.86	1.70	1.60	1.40
17	.60	*2.60	.50	.60	3.05	3.55	2.40	1.80	1.80	1.70	1.60	1.40
18	.60	*2.60	.50	.60	2.90	3.45	2.35	1.80	1.80	1.70	1.60	1.40
19	.60	.60	.50	.00	2.70	3.35	2.30	1.80	1.80	1.70	1.60	1.40
20	.60	.00	.50	.60	2.50	3.20	2.20	1.80	1.80	1.70	1.60	1.40
21	.60	.60	.50	.00	2.60	3.05	2.20	1.70	1.70	1.70	1.60	1.40
22	.60	.00	.50	.03	2.30	2.95	2.20	1.70	1.70	1.70	1.50	1.40
23	.00	.00	.55	.65	2.15	2.85	2.20	1.70	1.70	1.70	1.50	1.40
24	.00	.00	.05	.95	2.15	2.75	2.20	1.70	1.70	1.70	1.50	1.40
25	.00	.00	.05	1.85	2.20	2.65	2.20	1.70	1.00	1.70	1.50	1.40
26	.00	.00	.05	1.80	2.25	2.65	2.25	1.70	1.00	1.70	1.50	1.40
27	.00	.00	.05	1.80	2.30	2.00	2.20	1.70	1.60	1.70	1.50	1.40
28	.00	.00	.05	1.70	2.35	2.55	2.10	1.70	1.00	1.70	1.50	1.40
29	.00	---	.05	1.55	2.00	2.50	2.10	1.70	1.00	1.70	1.50	1.40
30	.00	---	.80	1.75	2.80	2.50	2.00	1.70	1.00	1.70	1.50	1.40
31	.00	---	.75	1.05	3.05	2.00	1.70	1.70	1.70	1.70	1.70	1.40

†New rod.

\*Back water caused by ice.

**RATING TABLE FOR ASHLEY CREEK**  
Near Vernal, Utah, From January 1, to June 8, 1903.

Gage height.	Discharge.	Gage height.	Discharge.	Gage height.	Discharge.	Gage height.	Discharge.
Foot.	Sec.-feet.	Foot.	Sec.-feet.	Foot.	Sec.-feet.	Foot.	Sec.-feet.
0.6	37	1.5	230	2.5	538	3.5	1,005
.6	45	1.0	258	2.0	570	3.0	1,145
.7	55	1.7	280	2.7	605	3.8	1,310
.8	69	1.8	315	2.8	615	4.0	1,480
.9	85	1.0	340	2.0	690	4.2	1,600
1.0	100	2.0	378	3.0	740	4.4	1,810
1.1	128	2.1	410	3.1	793	4.6	2,020
1.2	162	2.2	442	3.2	853	-----	-----
1.3	170	2.3	474	3.3	920	-----	-----
1.4	202	2.4	500	3.4	990	-----	-----

**ESTIMATED MONTHLY DISCHARGE  
Of Ashley Creek, Near Vernal, Utah, for 1903.  
(Drainage area, 250 square miles.)**

Month.	Discharge in Second-Feet.			Total in Acre Feet.	Run-Off.	
	Maximum.	Minimum.	Mean.		Sec.-ft. per Sq. mile.	Depth in Inches.
Jan.	45	45	45	2767	0.18	.21
Feb.	45	45	45	2499	.18	.19
March	69	37	42	2583	.17	.20
April	315	45	94	5617	.38	.43
May	1255	330	601	36951	2.40	2.77
June	2065	380	1096	65215	4.38	4.80
July	445	140	254	15646	1.02	1.18
August	140	60	94	5784	.38	.44
Sept.	140	50	69	4134	.28	.31
October	125	66	74	4532	.30	.35
Nov.	66	37	48	2832	.10	.21
Dec.	30	30	30	1846	.12	.14
The year	2065	30	208	150405	0.83	11.32

The observations at this station during 1904 have been made under the direction of H. S. Reed, resident hydrographer.

**DISCHARGE MEASUREMENTS  
Of Ashley Creek, Near Vernal, Utah, for 1904.**

Date.	Hydrographer.	Width	Area of Section	Mean velocity	Gage height	Dis- charge
						Second- Foot
		Foot	Sq. Ft.	ft. per sec.	Foot	
January 24	H. S. Reed	35	37	1.08	1.00	40
March 30*	do	36	30	1.13	1.40	34
April 27	do	38	98	5.20	3.15	510
April 29	do	37	73	3.20	2.50	231
May 24	do	42	128	5.07	3.05	720
May 24	do	42	128	5.43	3.05	605
August 6*	do	30	35	1.01	1.85	67
August 6*	do	30	35	1.60	1.85	56
December 23	do	34	23	1.20	1.40	29

**MEAN DAILY GAGE HEIGHT IN FEET**  
*Cf Ashley Creek, near Vernal, Utah, for 1904.*

Day.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
1	1.40	1.40	1.30	1.40	2.60	2.90	2.10	1.90	1.80	1.80	1.80	1.50
2	1.40	1.40	1.30	1.40	2.40	2.95	2.00	1.90	1.80	1.70	1.80	1.50
3	1.40	1.40	1.30	1.40	2.30	3.00	2.00	1.90	1.80	1.70	1.80	1.50
4	1.40	1.40	1.30	1.40	2.35	2.95	2.00	1.85	1.80	1.70	1.80	1.50
5	1.40	1.40	1.30	1.40	2.50	2.90	2.00	1.80	1.80	1.70	1.80	1.50
6	1.40	1.40	1.30	1.40	2.65	3.00	2.00	1.80	1.80	1.70	1.70	1.50
7	1.40	1.40	1.30	1.45	2.55	3.10	2.10	1.80	1.80	1.85	1.70	1.50
8	1.40	1.40	1.30	1.50	2.40	3.30	2.10	1.80	1.80	1.80	1.70	1.50
9	1.40	1.40	1.30	1.55	2.60	3.10	2.10	1.80	1.80	1.80	1.70	1.50
10	1.40	1.80	1.30	2.25	2.75	3.05	2.10	1.80	1.80	1.80	1.70	1.50
11	1.40	1.55	1.30	2.25	3.00	2.95	2.10	1.80	1.80	1.80	1.70	1.50
12	1.40	1.40	1.30	1.90	2.95	2.85	2.10	1.80	1.80	1.80	1.70	1.50
13	1.40	1.40	1.30	1.95	3.35	2.80	2.10	1.80	1.80	1.80	1.60	1.50
14	1.40	1.40	1.30	2.45	3.55	2.80	2.00	1.95	1.80	1.80	1.60	1.50
15	1.40	1.40	1.30	2.75	3.45	2.70	2.00	2.00	1.80	1.80	1.60	1.50
16	1.40	1.40	1.30	2.15	3.55	2.70	2.00	2.00	1.80	1.80	1.60	1.50
17	1.40	1.40	1.30	2.40	3.45	2.65	2.00	2.00	1.80	1.80	1.60	1.50
18	1.40	1.40	1.30	3.20	3.90	2.60	2.00	2.05	1.80	1.80	1.60	1.50
19	1.40	1.40	1.30	2.80	3.75	2.50	2.00	2.05	1.80	1.80	1.60	1.50
20	1.40	1.40	1.45	2.60	3.40	2.50	2.00	2.00	1.80	1.80	1.60	1.50
21	1.40	1.30	1.30	2.35	3.45	2.40	2.00	1.90	1.80	1.80	1.60	1.50
22	1.40	1.30	1.30	2.00	3.45	2.40	2.00	1.90	2.40	1.80	1.60	1.40
23	1.40	1.30	1.30	1.00	4.00	2.40	2.00	1.90	2.00	1.80	1.60	1.40
24	1.40	1.30	1.30	2.10	3.70	2.30	2.05	1.90	2.00	1.80	1.60	1.40
25	1.40	1.30	1.35	2.85	3.65	2.30	1.95	1.90	1.90	1.80	1.60	1.60
26	1.40	1.30	1.30	3.15	3.45	2.30	1.90	1.90	1.90	1.80	1.60	1.40
27	1.40	1.80	1.30	3.20	3.60	2.20	1.90	1.90	1.80	1.80	1.60	1.40
28	1.40	1.30	1.30	2.00	3.25	2.20	1.90	1.90	1.80	1.80	1.60	1.40
29	1.40	1.30	1.55	2.40	3.20	2.15	1.90	1.90	1.80	1.80	1.60	1.40
30	1.40	1.40	1.40	2.30	3.10	2.10	1.90	1.90	1.80	1.80	1.50	1.40
31	1.40	1.40	1.40	-----	3.00	1.90	1.90	1.80	1.80	1.80	1.50	1.40

RATING TABLE  
For Ashley Creek near Vernal, Utah, from June 9, 1903, to December 31, 1904.

Gage height.	Discharge.						
Feet.	Sec., foot.						
1.30	25	2.20	150	3.00	433	3.80	815
1.40	31	2.30	170	3.10	478	3.90	800
1.50	38	2.40	205	3.20	523	4.00	885
1.60	47	2.50	236	3.30	568	4.10	1,100
1.70	58	2.60	270	3.40	613	4.20	1,235
1.80	71	2.70	307	3.50	658	4.30	1,380
1.90	87	2.80	347	3.60	705	4.40	1,630
2.00	105	2.90	380	3.70	755	4.60	1,035
2.10	120	-----	-----	-----	-----	-----	-----

The above table is applicable only for open-channel conditions. It is based upon 12 discharge measurements made between the limits of the table. It is well defined between gage heights 1.30 feet and 3.70 feet. Above gage height 3.70 feet the curve is determined by one measurement.

**ESTIMATED MONTHLY DISCHARGE  
Of Ashley Creek near Vernal, Utah, for 1904.  
(Drainage area, 250 square miles.)**

Month.	Discharge in Second-Feet.			Total in Acre Feet.	Run-Off.	
	Maximum.	Minimum.	Mean.		Sec.-ft. per Sq. mile.	Depth in Inches.
January ---	31	31	31.0	1,906	.0124	0.143
February ---	71	25	30.9	1,777	.124	.134
March ---	42	25	26.3	1,617	.105	.121
April -----	523	31	182	10,830	.728	.812
May -----	985	176	511	31,420	2.04	2.35
June -----	568	126	309	18,390	1.24	1.38
July -----	126	87	107	6,570	.428	.493
August -----	116	71	86.2	5,300	.345	.398
September --	205	71	78.8	4,680	.315	.351
October --	79	58	69.2	4,255	.277	.310
November --	71	38	53.3	3,172	.213	.238
December --	47	31	36.5	2,244	.140	.168
The year--	985	25	127	92,180	.507	6.01

MONTHLY DISCHARGE  
 In Thousand of Acre Feet of Ashley Creek near Vernal, Utah.  
 (Drainage Area, 250 square miles.)

Year	Run-off														
	January	February	March	April	May	June	July	August	September	October	November	December	Total	Beac.-feet per square mile	Depth in inches
1900	2.35	1.94	2.28	2.38	29.93	14.58	4.55	2.77	2.56	2.71	2.50	2.34	70.14	0.39	5.27
1901	2.21	2.00	2.28	7.26	42.00	13.81	6.15	9.16	5.71	3.81	3.45	3.20	101.03	0.55	7.50
1902	2.78	2.50	2.61	4.67	32.77	18.23	6.63	3.43	3.10	2.74	2.77	2.77	85.30	0.47	6.40
1903	2.77	2.50	2.58	5.62	36.95	65.22	15.65	5.78	4.13	4.53	2.88	1.85	150.41	0.83	11.32
1904	1.91	1.78	1.62	10.83	31.42	18.39	6.58	5.30	4.69	4.26	3.17	2.24	92.18	0.51	6.91
Mean	2.36	2.14	2.27	6.15	34.61	26.05	7.91	5.29	4.06	4.06	2.94	2.48	99.61	0.55	7.50

### (Dry Fork) of Ashley Creek near Vernal, Utah.

The many branches of Ashley Creek drain an area of approximately 250 square miles in northeastern Utah. This area is situated entirely within the Uinta Forest Reserve, in Uinta County, between the drainage areas of Brush Creek, Green River, and Uinta River. The streams receive their water from a series of small lakes on the summit and the southern slopes of the Uinta Mountains, thus insuring a never-failing supply. They finally join at the base of the mountains, and enter Ashley Valley 8 miles above the town of Vernal in one stream. The peculiar feature of the streams between the Uinta River and Green River is that at some point in their course they disappear, except during the spring floods, and that, with the exception of Dry Fork, which is the most westerly branch of Ashley Creek, reappear later in the year.

Dry Fork has its source in a lake in the Uinta Mountains, about 35 miles northwest of Vernal, Utah. Its length is about 28 miles, and for 23 miles it flows in a canyon varying from 500 feet to one-half mile in width. Its general direction is southeast, and it has a fall of at least 150 feet per mile. It enters Ashley Creek about 8 miles above the town of Vernal. About midway the stream's length, or 10 miles northwest of Dry Fork post-office, a gaging was made on August 20, 1901, which gave a discharge of 96 second-feet. About 1,200 feet below this point occurs a pool, or sink, lying in a circular basin whose banks, except on the upstream side, are from 75 to 100 feet high. The stream enters this pool through several inlets. The pool is apparently bottomless. The water in its larger end has a slow circular motion, but whether this is caused by the incoming stream or by suction from below could not be determined. The only visible outlet is a narrow, rocky channel which has been widened by blasting in an effort to increase its flow. When visited in 1901 this was carrying about 10 second-feet, all of which disappeared within a mile below.

Only three times since 1879 has the water reappeared in the channel of Dry Fork after the spring floods have subsided. One of these was during the last year.

The first flow of 1904 commenced on the night of May 12, when approximately, the stream was carrying 100 second-feet. It reached its maximum height May 22, which it held until May 24, when a measurement was made just above its mouth. It was then carrying 308 second-feet, or practically 42 per cent of the discharge of Ashley Creek at the station about 1 mile below the junction of Dry Fork with the main stream. The flow gradually decreased from day to day until July 15, 1904, when it completely subsided. Previous to and at the time of the maximum discharge of this branch, it, in all probability, was carrying more than 42 per cent of the entire discharge at the station, for the season of high water during average years does not occur on this branch until after the greater portion of Ashley Creek's high water has passed. As an approximation of what this stream was carrying, the following tables, which are thought to be a fair estimate of its discharge, have been prepared.

The observations at this station during 1904 have been under the direction of H. S. Reed, resident hydrographer.

MEAN DAILY DISCHARGE, IN SECOND-FEET,  
Of Dry Fork, near Vernal, Utah, for 1904.

Day	May	June	July	Day	May	June	July	Day	May	June	July
1		200	80	12	100	104	14	23	350	128	
2		254	74	13	117	188	10	24	308	122	
3		248	68	14	134	182	6	25	302	116	
4		242	62	15	151	176	0	26	296	110	
5		230	56	16	168	170		27	290	104	
6		230	50	17	185	164		28	284	98	
7		224	44	18	202	158		29	278	92	
8		218	38	19	219	152		30	272	80	
9		212	32	20	200	146		31	266		
10		206	26	21	300	140					
11		200	20	22	350	134					

ESTIMATED MONTHLY DISCHARGE  
Of Dry Fork near Vernal, Utah, for 1904.

Month.	Discharge in second-feet.			Total in acre-feet.
	Maximum.	Minimum.	Mean.	
May 12-31	350	100	242	0,584
June	200	86	173	10,200
July 1-16	80	0	38	1,150

### White River near Ouray School, Utah.

This station was established March 22, 1904, by H. S. Reed. It is located at the site of the White River Dam and Canal Company's dam, 14 miles from Ouray, Utah. The nearest town is Vernal, Utah, 30 miles distant, and the nearest railroad station is Price, Utah, 130 miles distant. The station is below all tributaries. A vertical staff gage is attached to the upstream face of the crib work of the dam near the right bank. It is read twice each day by T. T. Holdaway. Discharge measurements are made by wading and by means of a boat at a point about 600 feet below the dam, by stretching a tagged rope across the stream when there is a good current. The channel is straight for about 600 feet above and 1,500 feet below the station. Both banks are high and do not overflow. The bed of the stream is composed of clean sand and is shifting. The bench mark is a T cut in the solid rock about 100 feet northeast of the gage rod on the right bank. Its elevation is 13,185 feet above the zero of the gage.

The observations at this station during 1904 have been made under the direction of H. S. Reed, resident hydrographer.

DISCHARGE MEASUREMENTS  
Of White River near Ouray, Utah, in 1904.

Date	Hydrographer	Width	Area of section	Mean velocity	Gage height	Discharge
						Second-feet
		Feet	Square feet	Feet per second	Feet	
March 22	H. S. Reed	104	224	1.80	2.00	403
June 4	do	103	578	3.53	5.00	2,010
August 15	do	107	180	1.70	2.16	328
October 28	do	108	102	1.70	2.20	344

**MEAN DAILY GAGE HEIGHT, IN FEET,  
Of White River near Ouray, Utah, for 1904.**

Day.	Mar.	Apr.	May	June.	Day.	Mar.	Apr.	May	June.
1		2.20	4.40	6.15	17		2.75	5.30	5.50
2		2.05	4.25	5.85	18		3.00	5.00	5.45
3		2.05	4.40	5.70	19		3.10	4.82	5.00
4		2.10	4.60	5.82	20		3.30	5.05	4.85
5		1.95	3.85	5.70	21		3.55	5.50	4.80
6		1.92	3.75	5.05	22	2.00	3.90	5.60	-----
7		1.98	3.60	4.65	23		3.78	5.20	-----
8		1.88	3.70	4.50	24		3.48	5.55	-----
9		1.85	4.05	6.70	25		3.25	5.80	-----
10		1.80	3.80	5.25	26		3.20	7.10	-----
11		1.78	3.65	5.05	27		2.98	6.70	-----
12		1.75	3.95	5.25	28		3.05	6.15	-----
13		1.85	4.40	5.20	29		3.45	5.70	-----
14		2.00	4.75	5.50	30		4.05	5.75	-----
15		2.25	4.95	5.70	31			5.70	-----
16		2.50	5.08	5.00					

### Uinta River at Ouray School, Utah.

This station was established November 8, 1899, by C. C. Babb, assisted by C. T. Prall. It is located at the highway bridge 5 miles below the station at Fort Duchesne. The gage is a vertical  $1\frac{1}{2}$  by 5-inch board, 9 feet long, nailed to the east side of the north crib of the bridge. It is read twice each day by O. M. Waddell, the superintendent of the Indian school. Discharge measurements are made at high stages from the bridge and at ordinary stages by wading about 300 feet below. The initial point for soundings for the section at the bridge is the zero mark on the bridge railing. The initial point for the wading section is the first tag from the post on the right bank to which the wire is fastened. The channel is curved above the bridge and is straight for 600 feet below. The right bank is high, is composed of gravel, and is not subject to overflow. The left bank is low and will overflow at high stages. The bed of the stream is rocky and is filled in with sediment during a part of the year. The central pier of the bridge divides the bridge section into two parts. Bench mark No. 1 is the center one of the line of nails driven into a cottonwood tree at the northwest corner of the bridge. Its elevation is 7.48 feet above the zero of the gage. Bench mark No. 2 is a nail in the flagstaff in the school grounds. Its elevation is 22.64 feet above the zero of the gage and 4,760 feet above sea level.

**DISCHARGE MEASUREMENTS**  
**Of Uinta River at Ouray School for 1890.**

Date.	Hydrographer.	Gage height.	Discharge
		Feet.	Second-ft.
November 15	C. C. Babb	0.15	124
November 20	and	.56	124
December 2	C. T. Prall.	.49	120
December 9		.50	115
December 16		.46	103

**DAILY GAGE HEIGHT**  
Of Uinta River at Ouray School for 1899.

**ESTIMATED MONTHLY DISCHARGE  
Of Uinta River at Ouray School, Utah, for 1899.  
(Drainage area 907 square miles.)**

Month	Discharge in Second-feet			Total in Acre-feet	Run-off	
	Maximum	Minimum	Mean		Sec.-feet per square mile	Depth in inches
November			124	7,878	.03	.14
December			113	6,048	.12	.14

**DISCHARGE MEASUREMENTS  
Of Uinta River at Ouray School.**

Date.	Hydrographer.	Gage height.	Discharge
		Feet.	Second-ft.
1900.			
March 9		.80	181
March 22		.31	83
March 29		.26	58
April 13		.34	78
April 19		.23	64
May 4		.38	90
June 4		2.50	704
June 13		1.72	427
June 18		1.32	290
June 25		1.15	251
July 9		0.88	84
July 25		0.10	32
July 26		-0.10	32
August 18		-0.17	31
August 28		.00	46
September 11		.05	210
October 8		.45	103
October 27		.57	117
November 3		.56	114
November 10		.52	108
November 17		.53	108
November 22		.79	100
November 30		.48	97
December 7		*.50	74

\*Ico.

**DAILY GAGE HEIGHT  
Of Uinta River at Ouray School for 1900.**

Day.	Jan.	Feb.	Mar.	Apr.	May	Juno	July	Aug.	Sep.	Oct.	Nov.	Dec.
1			*	.28	.50	3.30	.70	-.23	-.05	.58	.49	.30
2			*	.25	.48	3.20	.70	-.28	.00	.70	.57	.43
3			*	.30	.42	2.70		-.35	-.04	.56	.53	.30
4			*	.45	.38	2.50	.66	-.31	.00	.56	.50	*
5			*	.30	.30	2.40	.68	-.22	.26	.52	.54	*

**DAILY GAGE HEIGHT**  
Of Uinta River at Ouray School for 1900.—Continued.

Day.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
6			*	.46	.47	2.25	—	.07	.23	.51	.54	*
7			*	.48	.49	2.10	.42	.08	.18	.51	.54	*
8			*	.47	.47	2.00	.39	.01	.11	.40	.52	*
9			.80	.42	.56	1.90	0.37	—.14	—	.50	.52	*
10				.42	.90	1.90	—	—.20	.60	.51	.50	.51
11			.64	.35	1.35	1.82	.20	—.21	.72	.51	.49	‡
12			.66	.34	1.80	1.08	.12	—.22	.45	.51	.45	—
13			.58	.37	1.81	1.70	.04	—.20	.30	.56	.48	—
14			.58	.34	1.72	1.60	.04	—	.27	.51	.51	—
15			.52	.30	1.08	1.50	—.05	—.20	.20	.52	.45	—
16			.50	.28	2.27	—	.01	—.19	.20	.52	.45	—
17			.48	.27	2.77	—	.05	—.18	.20	.52	.52	—
18			.46	.25	2.05	—	.02	—.17	.21	.52	.08	—
19			.40	.24	—	1.24	.04	—.14	.22	.57	.08	—
20			.38	.25	2.05	1.25	.06	—.08	.26	.60	.08	—
21			.35	.20	2.90	1.30	.06	—.05	.20	.60	.08	—
22			.30	.35	2.85	1.15	.10	—.02	.27	.57	.78	—
23				.40	3.48	1.15	.10	—.05	.20	.58	.00	—
24			.30	.31	3.73	1.30	.10	—.01	.47	.60	.71	—
25			.31	.31	3.70	1.15	.06	—.07	1.10	.57	.70	—
26			.30	.25	3.70	1.02	.07	.10	.70	.56	.70	—
27			.30	—	4.00	—	.01	.07	.70	.50	.08	—
28			.28	.25	4.15	.85	.12	—.01	.05	.60	.01	—
29			.20	1.05	3.80	.82	.10	—.02	.40	.52	.38	—
30			.23	.80	3.55	—	.10	—.01	.58	.54	.25	—
31			.20	—	3.05	—	.20	—.07	—	.40	—	—

\*Frozen.

†Discontinued Dec. 11.

**ESTIMATED MONTHLY DISCHARGE**  
Of Uinta River at Ouray School for 1900.  
(Drainage area 907 square miles.)

Month.	Discharge in Second-Feet.			Aero Foot.	Sec.-ft. per Sq. mile.	Run-Off, Depth in Inches,
	Maximum.	Minimum.	Mean.			
January			100	0,148	0.10	0.12
February			100	5,551	.10	.10
March	170	50	97	5,904	.10	.12
April	232	64	88	5,230	.00	.10
May	1,407	92	680	42,230	.71	.82
June	1,123	170	451	20,836	.47	.62
July	150	28	65	3,007	.07	.08
August	40	10	32	1,008	.03	.03
September	242	37	80	5,200	.00	.10
October	150	113	122	7,501	.13	.15
November	200	64	128	7,017	.13	.15
Dec. 0 days		91	*90	5,400	.00	.11
The year	1,407	10	171	123,813	.18	2.40

\*Assumed.

DISCHARGE MEASUREMENTS.  
Of Uinta River at Ouray School, Utah; for 1901.

Date.	Hydrographer	Gage	Discharge
		height. Feet.	Second-ft.
C. T. Prall, et al.			
April 5		.35	86
April 11		.48	107
April 18		.37	87
April 25		.55	118
May 16		3.75	2,177
May 28		2.80	1,219
June 5		1.68	396
June 8		1.53	347
June 13		1.30	200
June 20		1.12	237
July 4		.78	144
July 13		.58	130
July 18		.29	81
July 25		.09	56
August 1		.15	67
August 8		.78	88
August 15		.27	82
August 20		1.00	260
September 5		.70	160
September 12		.40	114
September 19		.42	102
September 26		.52	126
October 3		.42	100
October 12		.52	122
October 17		.48	118
October 24		.50	110
November 7		.65	136
November 14		.53	131
November 21		.58	135
November 30		.55	133
December 5		.00	143

**DAILY GAGE HEIGHT**  
Of Uinta River at Ouray School, Utah, for 1901.

Day.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
1				0.33	1.01	2.12	0.90	0.10	0.92	0.49	0.65	.50
2				.46	1.12	1.95		.06	.80	.47	.64	.40
3				.40	1.64	1.90	0.90	.06	.75	.46	.64	.57
4				.43	1.48	1.78	0.80	.20	.69	.45	.64	.50
5				.40	1.26	1.70	.70	.32	.68	.50	.61	.60
6				.35	1.14	1.52	.70	.28	.64	.52	.60	.54
7			0.79	.40	1.08	1.60	.66	.00	.58	.54	.58	.60
8			.62	.41	1.21	1.55	.60	.70	.55	.59		.50
9			.50	.40	1.41	1.50	.52	.70	.52	.58		.25
10			.50	.50	1.86	1.45	.67	.54	.50	.57		.45
11			.55	.48	2.46	1.40	.85	.45	.48	.55	.58	.66
12			.58	.48	3.00	1.40	.68	.38	.40	.54	.57	*
13			.44	.47	3.25	1.31	.60	.32	.50	.50	.52	
14			.49	.47	3.20	1.38	.52	.30	.47	.48	.54	
15			.50	.48	2.95	1.37	.48	.20	.47	.49	.55	
16			.52	.50	3.50	1.25	.43	.31	.43	.48	.53	
17			.51	.41	4.40	1.20	.40	.43	.41	.40	.55	
18			.56	.47	4.20	1.15	.36	.35	.42		.60	
19			.49	.40	4.65	1.18	.28	.37	.40		.60	
20			.45	.40	4.80	1.12	.24	2.00	.42		.64	
21			.60	.48	3.70	1.10	.20	1.35	.42		.53	
22			.50	.35	3.15	1.14	.15	1.00	.30		.60	
23			.50	.57	2.70	1.12	.10	.92	.30		.56	
24			.43	.57	2.45	1.10	.10	.81	.41	.40	.57	
25			.36	.61	2.49	1.10	.08	.75	.43	.50	.60	
26			.48	.08	2.63	.05	.22	.60	.50	.50	.51	
27			.48	.70	2.80	.87	.10	.08	.52	.54	.60	
28			.45	.71	2.80	.85	.38	.82	.50	.85	.40	
29			.39	.60	2.73	.85	.35	1.03	.50	.05	.55	
30			.41	.64	2.45	.85	.31	1.25	.50	.70	.63	
31			.38		2.22		.20	1.20		.70		

**ESTIMATED MONTHLY DISCHARGE**  
Of Uinta River at Ouray School, for 1901.  
(Drainage area 907 square miles.)

Month.	Discharge in Second-Feet,			Acre Feet.	Run-Off.	
	Maximum.	Minimum.	Mean.		Sec.-ft. per Sq. mile.	Depth in Inches.
January			*120	7,370	0.12	0.14
February			*120	6,661	.12	.12
March		92	110	7,133	.12	.14
April	151	92	110	6,002	.12	.13
May	3,450	215	1,137	60,011	1.18	1.30
June	608	181	300	18,387	.32	.30
July	102	56	114	7,010	.12	.14
August	963	62	104	10,084	.17	.20
Sept.	102	100	121	7,200	.13	.16
October	181	108	123	7,563	.13	.16
November	142	116	126	7,498	.13	.16
December			*115	7,071	.12	.14
The year	3,450	62	*223	162,802	.23	3.18

\*Estimated.

**DISCHARGE MEASUREMENTS**  
**Of Uinta River at Ouray School, near Leland, Utah, for 1902.**

Date.	Hydrographer.	Gage height.	Discharge
		Feet.	Second-ft.
March 27	C. T. Prall	.56	122
April 5	do	.36	89
April 10	do	.31	81
April 17	do	.24	72
April 24	do	.39	95
May 1	do	.85	90
May 8	do	.69	144
May 15	do	2.65	919
May 22	do	1.60	397
May 29	do	3.50	2,224
June 5	do	2.85	1,143
June 12	do	2.32	732
June 18	do	1.70	426
June 26	do	1.20	285
July 3	do	1.22	278
July 10	do	.07	150
July 24	H. S. Reed	.24	75
July 31	do	.03	47
August 7	do	-.10	35
August 14	do	.03	51
August 21	do	-.12	36
August 28	do	.05	48
September 4	do	.06	52
September 11	do	-.08	35
September 18	do	.07	50
September 25	do	.33	51
October 2	do	.30	78
October 9	do	.33	84
October 23	do	.33	81
October 30	do	.40	87
November 7	do	.33	83
November 13	do	.00	110
November 20	do	.54	100
November 26	do	.15	40
December 4	do	.83	67
December 10	do	.03	104
December 16	do	.05	89

DAILY GAGE HEIGHT, IN FEET,  
Of Uinta River at Ouray School, near Leland, Utah, for 1902.

Day.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
1	*	*	*	0.46	0.31	3.45	1.28	0.01	0.10	0.30	0.40	0.48
2				.36	.32	3.05	1.39	-.04	.15	.30	.50	.40
3				.38	.31	2.60	1.20	-.08	.11	.30	.40	.35
4				.38	.35	2.50	1.18	-.09	.08	.30	.38	.20
5				.36	.32	2.55	1.10	-.06	.01	.31	.40	.53
6				.38	.45	2.60	1.10	-.12	-.01	.33	.35	.52
7				.35	.51	2.60	1.00	-.14	-.02	.34	.35	.55
8				.40	.70	2.68	.85	-.17	-.03	.35	.37	.53
9				.40	.88	2.68	.70	-.19	-.03	.35	.30	.58
10				.38	1.33	2.50	.68	-.21	-.04	.34	.40	.60
11				.32	1.00	2.50	.60	-.23	-.06	.35		.62
12				.35	2.24	2.40	.50	.00	-.08	.35	.72	.55
13				.38	2.35	2.20	.55	.05	-.00	.37	.63	.53
14				.31	2.50	2.10	.45	.01	-.11	.38	.45	.58
15				.31	2.75	2.00	.30	.06	-.11	.38	.50	.50
16				.27	2.55	1.85	.38	.07	.00	.38	.38	.20
17				.28	2.00	1.74	.40	-.01	.05	.37	.35	.22
18				.26	2.53	1.68	.48	-.05	.00	.35	.43	.30
19				.20	2.30	1.53	.40	-.12	.07	.35	.32	.52
20				.30	1.00	1.48	.30	-.03	.07	.38	.63	.72
21				.45	1.80	1.48	.32	-.02	1.80	.38	.61	*
22				.68	1.50	1.40	.28	-.13	.58	.30	.52	
23				.41	1.48	1.32	.28	-.14	.40	.35	.52	
24				.45	1.30	1.28	.25	-.15	.30	.33	.50	
25				.40	1.44	1.24	.20	-.12	.32	.33	.45	
26				.38	1.85	1.20	.20	-.10	.30	.33	.40	
27				.38	2.05	1.12	.15	-.11	.30	.35	.40	
28				.35	3.53	1.18	.12	.01	.30	.33	.42	
29				.32	3.75	1.60	.11	.18	.31	.38	.40	
30				.20	3.78	1.35	.08	.18	.30	.38	.40	
31					3.60	-----	.06	.17	-----	.38	-----	

\*River frozen.

## RATING TABLE

For Uinta River at Ouray School, near Leland, Utah, for January 1, to December 1, 1902.\*

Gage height.	Discharge.	Gage height.	Discharge.	Gage height.	Discharge.	Gage height.	Discharge.
Feet.	Sec.-feet.	Feet.	Sec.-feet.	Feet.	Sec.-feet.	Feet.	Sec.-feet.
-.2	30	1.0	210	2.2	660	3.4	2,040
-.1	35	1.1	240	2.3	720	3.5	2,200
.0	40	1.2	270	2.4	780	3.6	2,362
.1	54	1.3	300	2.5	850	3.7	2,524
.2	68	1.4	330	2.6	930	3.8	2,686
.3	82	1.5	360	2.7	1,010	3.9	2,848
.4	96	1.6	390	2.8	1,110	4.0	3,010
.5	110	1.7	430	2.9	1,240	4.1	3,172
.6	130	1.8	470	3.0	1,400	4.2	3,334
.7	150	1.9	510	3.1	1,560	4.3	3,496
.8	170	2.0	550	3.2	1,720	4.4	3,658
.9	190	2.1	600	3.3	1,880	4.5	3,820

\*The daily discharges for December were obtained from the measurements by interpolation.

ESTIMATED MONTHLY DISCHARGE  
Of Uinta River at Ouray School, near Leland, Utah.  
(Drainage area, 967 square miles.)

Month,	Discharge in Second-Feet.			Aero Feet.	Run-Off.	
	Maximum.	Minimum.	Mean.		Sec.-ft. per Sq. mile.	Depth in Inches.
1002,						
January*				110	6,704	.11
February*				110	6,100	.11
March*				100	6,140	.10
April	140	70	92	5,487	.09	.10
May	2,053	81	740	45,484	.77	.80
June	2,120	240	651	39,020	.07	.76
July	327	47	132	8,148	.14	.10
August	65	30	40	2,407	.01	.05
September	470	31	72	4,284	.07	.08
October	94	78	86	5,400	.00	.10
November	164	57	97	5,780	.10	.11
December*	104	57	83	5,120	.00	.10
The year	2,053	30	103	140,296	.20	2.70

\*January 1, to April 1, and December 21-31, river frozen; quantities estimated.

**DISCHARGE MEASUREMENTS**  
Of Uinta River at Ouray School, Utah, in 1903.

Date.	Hydrographer	Gage height.	Discharge
		Feet.	Second-ft.
March 29	H. S. Reed	1.06	224
April 4	do	.63	117
April 17	do	.41	85
April 23	do	.46	97
May 1	do	.40	88
May 7	do	.80	154
May 14	do	2.80	1,016
May 21	do	1.90	467
May 28	do	1.03	347
June 4	do	3.00	2,103
June 19	do	3.00	1,200
June 26	do	2.18	616
July 3	do	1.70	393
July 9	do	1.57	335
July 16	do	1.05	301
July 23	do	1.40	293
July 30	do	.88	181
August 6	do	.47	90
August 14	do	.23	62
August 20	do	.18	53
August 27	do	.30	74
September 3	do	.30	68
September 11	do	.50	111
September 20	do	.43	94
October 2	do	1.13	235
October 7	do	.70	140
October 20	do	.62	131
October 29	do	.60	112
November 13	do	.90	165
November 20	do	.84	165
November 27	do	.55	80
December 4	do	.40	71

MEAN DAILY GAGE HEIGHT,  
In Feet, of Uinta River, at Ouray School, Utah, for 1903.

Day.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
1	*	0.98	0.43	3.03	1.82	0.66	0.18	0.65	0.56	0.61
2		1.18	.40	3.65	1.73	.66	.21	1.07	.57	.53
3		.72	.50	3.95	1.70	.65	.28	1.48	.60	.62
4		.61	.54	3.85	1.62	.53	.25	.92	.60	.52
5		.65	.60	3.68	1.56	.50	.29	.78	.61	.60
6		.53	.72	3.72	1.42	.45	.35	.75	.63	---
7		.50	.88	3.85	1.50	.38	1.00	.69	.60	.32
8		.55	1.01	4.13	1.85	.30	.65	.65	.01	.32
9		.54	1.06	4.15	1.60	.27	.59	.68	.55	.64
10		.58	1.22	3.80	1.41	.26	.56	.75	.43	.62
11		.59	1.36	3.58	1.30	.28	.52	.72	.42	.75
12		.48	1.53	3.50	1.25	.25	.78	.70	.45	.84
13		.43	1.87	3.53	1.19	.23	.76	.71	.75	*
14		.37	2.56	3.78	1.21	.22	.75	.68	.72	---
15		.43	2.98	3.45	1.20	.22	.82	.67	.74	---
16		.45	3.13	3.18	1.17	.22	.80	.70	.70	---
17		.43	2.95	3.05	2.15	.22	.72	.67	.37	---
18		.44	2.40	3.03	2.35	.20	.69	.65	.34	---
19		.42	2.20	2.83	1.45	.18	.65	.64	.60	---
20		.40	2.01	2.73	1.25	.18	.57	.64	.68	---
21		.36	1.93	2.60	1.18	.18	.52	.63	.88	---
22		.41	1.90	2.56	1.40	.18	.50	.64	.85	---
23		.48	1.75	2.45	1.48	.24	.48	.64	.82	---
24		.52	1.67	2.34	1.27	.35	.47	.60	.77	---
25		.57	1.58	2.25	1.28	.48	.46	.62	.63	---
26		.58	1.50	2.08	1.26	.30	.44	.63	.52	---
27		.60	1.60	2.00	*	.30	.44	.62	.63	---
28		.60	1.58	2.03	*	.32	.45	.61	.52	---
29		1.08	.54	1.67	2.00	1.00	.38	.52	.60	.55
30		1.28	.50	1.00	1.04	.88	.28	.65	.68	.00
31		1.39	---	2.43	---	.75	.25	---	.57	---

\*No record.

RATING TABLE  
For Uinta River at Ouray School, Utah, for 1903.

Gage height,	Discharge,	Gage height,	Discharge,	Gage height,	Discharge,	Gage height,	Discharge,
Feet.	Sec.-feet.	Feet.	Sec.-feet.	Feet.	Sec.-feet.	Feet.	Sec.-feet.
0.2	68	1.2	248	3.1	620	3.2	1,450
.3	72	1.3	273	2.8	680	3.3	1,670
.4	88	1.4	300	2.4	740	3.4	1,700
.5	106	1.5	328	2.6	810	3.5	1,840
.6	123	1.6	358	2.0	885	3.6	1,080
.7	141	1.7	390	2.7	965	3.7	2,120
.8	160	1.8	425	2.8	1,035	3.8	2,200
.9	180	1.0	467	2.0	1,145	3.9	2,400
1.0	180	1.0	467	2.0	1,145	3.0	2,400
1.1	224	2.1	605	3.1	1,340	4.2	2,820

Table well defined.

**ESTIMATED MONTHLY DISCHARGE**  
**For Uinta River at Ouray School, Utah, for 1903.**  
 (Drainage area, 967 square miles.)

Month.	Discharge in Second-Feet.			Total in Acre Feet.	Run-Off.	
	Maximum.	Minimum.	Mean.		Sec.-ft. per Sq. mile.	Depth in Inches.
April	248	80	115	6,843	0.12	0.13
May	1,395	88	447	27,485	.46	.53
June	2,750	490	1,498	89,137	1.65	1.73
July*	710	150	313	10,246	.32	.37
August	132	58	78	4,706	.08	.09
September	202	58	114	6,783	.12	.13
October	328	114	144	8,854	.15	.17
November	180	80	124	7,379	.13	.15
Dec. 1-12†			117	2,785	.12	.06
The Period	2,750	58	328	173,308	.36	3.35

\*July 27 and 28 interpolated.

†December 6 interpolated.

**DISCHARGE MEASUREMENTS**  
**Of Uinta River at Ouray School, Utah, for 1904.**

Date	Hydrographer	Width	Area of section	Mean velocity	Stage height	Dis- charge	Second-
							foot
Foot	Square feet	Feet per second	Feet				
March 18*....	H. S. Reed.....	53	52	1.38	1.37	72	
April 14*....	do.....	50	60	1.07	1.55	115	
April 20*....	do.....	55	60	1.47	1.48	97	
April 25....	Reed and Murphy....	49	50	1.20	1.33	60	
May 20....	H. S. Reed.....	66	236	5.40	4.16	1,280	
July 14*....	do.....	64	84	1.01	1.02	103	
August 17*....	do.....	80	120	2.42	2.43	201	
Sept. 5*....	do.....	62	68	1.50	1.05	108	
Oct. 31*....	do.....	60	72	1.57	1.07	113	

\*Measurement made by wading at different section.

**MEAN DAILY GAGE HEIGHT,\*  
In Feet, of Uinta River at Ouray School, Utah, for 1904.**

Day	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.†
1		1.42	1.90	3.78	2.45	1.65	2.01	1.80	1.70	1.43
2		1.50	1.93	3.08	2.40	1.60	2.09	1.80	1.70	1.42
3		1.48	1.98	3.55	2.30	1.50	1.72	1.70	1.68	1.44
4		1.40	1.98	3.26	2.30	1.50	1.88	1.80	1.62	1.49
5		1.40	1.86	3.10	2.25	1.45	1.78	1.78	1.62	1.52
6		1.35	1.76	3.08	2.20	1.40	1.69	1.79	1.61	1.55
7		1.38	1.78	3.15	2.25	1.40	1.61	1.81	1.60	1.58
8		1.32	1.82	3.35	2.35	1.35	1.58	1.78	1.60	1.71
9		1.30	1.91	3.46	2.30	1.40	1.51	1.80	1.64	1.80
10		1.28	2.39	3.49	2.15	1.25	1.52	1.79	1.55	-----
11		1.40	2.80	3.50	2.00	1.70	1.50	1.82	1.58	-----
12		1.42	3.48	3.50	2.00	1.50	1.48	1.81	1.52	-----
13		1.42	3.68	3.48	2.00	1.40	1.51	1.80	1.52	-----
14		1.50	4.02	3.40	1.90	2.35	1.49	1.81	1.52	-----
15		1.32	1.60	4.35	3.40	1.80	1.70	1.52	1.80	1.52
16		1.35	1.50	4.15	3.40	1.80	2.15	1.52	1.80	1.51
17		1.30	1.40	4.25	3.30	1.80	1.95	1.52	1.80	1.49
18		1.30	1.40	4.65	3.08	1.70	2.10	1.52	1.80	1.43
19		1.30	1.40	4.50	3.00	1.65	2.20	1.52	1.70	1.43
20		1.30	1.46	4.50	3.00	1.60	1.90	1.50	1.80	1.42
21		1.30	1.47	4.25	3.00	1.60	2.15	1.51	1.80	1.40
22		1.30	1.42	4.00	2.95	1.60	1.70	1.68	1.80	1.40
23		1.30	1.36	4.05	2.85	1.55	1.70	1.60	1.70	1.40
24		1.32	1.32	5.25	2.75	1.65	1.78	1.78	1.77	1.41
25		1.30	1.31	4.00	2.65	1.60	1.90	1.77	1.75	1.40
26		1.30	1.30	4.40	2.60	1.70	1.78	1.72	1.72	1.43
27		1.35	1.42	4.00	2.50	1.60	1.90	1.70	1.72	1.50
28		1.45	1.40	3.00	2.45	1.60	1.95	1.71	1.72	1.40
29		1.68	1.82	4.00	2.45	1.80	1.98	1.73	1.70	1.41
30		1.45	1.00	3.00	2.85	1.75	1.90	1.78	1.70	1.41
31		1.40	-----	3.80	-----	1.70	1.66	-----	1.70	-----

\*Gage heights referred to new datum.

†Ice during December.

**RATING TABLE**  
For Uinta River at Ouray School, Utah, from January 1, to December 31, 1904.

Gage height Feet	Dis-charge Second- Feet	Gage height Feet	Dis-charge Second- feet	Gage height Feet	Dis-charge Second- feet	Gage height Feet	Dis-charge Second- feet
1.25	58	1.85	154	2.90	452	4.10	1,240
1.30	64	1.90	164	3.00	495	4.20	1,340
1.35	70	1.95	174	3.10	540	4.30	1,440
1.40	77	2.00	184	3.20	590	4.40	1,540
1.45	84	2.10	206	3.30	640	4.50	1,650
1.50	92	2.20	230	3.40	700	4.60	1,760
1.55	100	2.30	256	3.50	760	4.70	1,870
1.60	108	2.40	284	3.60	830	4.80	1,980
1.65	117	2.50	313	3.70	900	4.90	2,090
1.70	126	2.60	344	3.80	980	5.00	2,210
1.75	135	2.70	377	3.90	1,060	5.10	2,330
1.80	144	2.80	413	4.00	1,150	5.20	2,450

The above table is applicable only for open-channel conditions. It is based upon nine discharge measurements made during 1904. It is not well defined. The table has been extended above gage height 4.15 feet.

**ESTIMATED MONTHLY DISCHARGE**  
Of Uinta River at Ouray School, Utah, for 1904.  
(Drainage area, 907 square miles.)

Month.	Discharge in Second-Feet.			Total in Acre Feet.	Run-Off.	
	Maximum.	Minimum.	Mean.		Sec. ft. per Sq. mile.	Depth in Inches.
March 15-31	105	61	70.5	2,377	0.073	0.010
April	161	62	89.2	4,031	.080	.008
May	2,510	187	972	59,770	1.01	1.10
June	961	270	577	34,330	.507	.000
July	298	100	174	10,700	.180	.208
August	270	58	141	8,070	.140	.108
September	204	80	120	7,140	.124	.138
October	148	120	140	8,008	.145	.107
November	120	77	91.7	5,035	.098	.100
The period	2,510	58	264	142,200	.252	2.70

**MONTHLY DISCHARGE**  
 On Thousands of Acre Feet of Uinta River at Ouray School, Utah.  
 (Drainage Area 967 square miles.)

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Total	Sec. ft. Run off	Inches per mi. depth	
1900	6.15	5.55	5.96	5.24	2.24	26.84	4.00	1.97	5.30	7.50	7.62	5.49	—	—	—	
1899	—	—	—	—	—	69.91	18.39	7.01	10.08	7.20	7.56	7.50	7.38	6.95	123.84	0.18
1901	—	7.38	6.88	7.13	6.90	—	—	—	—	—	5.46	5.78	5.13	162.80	0.23	3.18
1902	—	6.76	6.11	6.15	5.46	45.48	29.03	8.15	2.47	4.29	—	—	—	140.30	0.20	2.70
1903	—	—	—	—	—	6.84	27.49	59.14	19.25	4.80	6.78	8.85	7.35	2.79	—	—
1904	—	—	—	—	—	4.75	4.95	59.77	34.33	10.70	8.67	7.14	8.61	5.63	—	—
Mean	6.76	6.11	6.00	5.98	43.98	41.55	9.82	5.60	6.14	7.60	6.88	5.49	142.31	0.20	2.70	—

\*Assumed record missing.

### Green River at Ouray, Utah.

This station was established March 23, 1904. It is located about 500 feet below the ferry maintained by the Government at Ouray, Utah. The nearest town is Vernal, Utah, 35 miles distant, and the nearest railroad station is Dragon, about 35 miles distant.

The channel is slightly curved for about 2,000 feet above and is straight for 1,200 feet below the station. Both banks are fairly high and timbered. The right bank overflows for a short distance at high stages. The bed is composed of clean sand and is shifting. The stream is usually confined to one channel, which changes as sand bars are formed during high water. The velocity is fairly good.

Discharge measurements are made from the Government ferry cable, which is suspended across the river about 500 feet above the gage. The initial point for soundings is the first white mark on the cable on the right bank of the river.

The gage is a staff securely driven into the river bottom and spiked to a large cottonwood tree that overhangs the right bank. The gage is referred to bench marks as follows: (1) A large nail driven into the inside face of the tree that supports the gage rod; elevation, 13.80 feet above the zero of the gage. (2) A large nail driven into a blaze on a root of one of a group of large cottonwood trees 150 feet northeast of the gage; elevation, 13.51 feet above the zero of the gage.

A description of this station, with gage-height and discharge data, is contained in Water-Supply Paper No. 133 of the United States Geological Survey, pages 59-60.

The observations at this station during 1904 have been made under the direction of H. S. Reed, resident hydrographer.

DISCHARGE MEASUREMENTS  
Of Green River at Ouray, Utah, in 1904.

Date	Hydrographer	Width	Area of section	Mean velocity	Gage height	Discharge
		Feet	Square feet	Feet per second	Feet	Second-feet
March 24	H. S. Reed	298	1,914	2.41	2.80	4,610
August 16	do	280	1,319	2.16	1.20	2,852
October 29	do	251	686	2.12	.25	1,457

MEAN DAILY GAGE HEIGHT, IN FEET,  
Of Green River at Ouray, Utah, for 1904.

Day	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
1		1.12	6.00	10.10	6.48	2.45	1.20	0.00	0.25	-0.30
2		1.22	6.40	9.98	6.10	2.25	1.00	.00	.20	-.30
3		1.40	6.38	9.00	5.00	2.08	.95	-.10	.20	-.30
4		1.80	6.70	9.75	5.82	2.00	.85	-.10	.20	-.30
5		2.20	6.70	9.70	5.80	1.92	1.15	-.10	.10	-.40
6		2.20	6.42	9.02	5.75	1.82	1.10	-.10	.10	-.40
7		2.45	6.35	9.40	5.70	1.05	1.00	.00	.00	-.50
8		2.45	6.38	9.18	5.55	1.50	.85	.70	.00	-.50
9		2.40	6.50	9.15	5.38	1.32	.80	.30	.00	-.10
10		2.40	7.00	8.00	5.30	1.25	.75	.10	.00	.00
11		2.12	6.68	9.45	5.20	1.20	.65	.00	.00	.25
12		1.00	6.52	9.80	4.05	1.15	.45	.00	.00	.40
13		2.22	7.00	9.72	4.70	1.22	.30	.10	.00	*.55
14		2.78	7.40	9.85	4.42	1.38	.30	.15	.00	*.55
15		3.35	7.05	10.02	4.15	1.20	.20	.30	-.10	*.05
16		3.85	7.00	9.88	3.95	1.22	.15	.40	-.15	*.70
17		4.45	8.05	9.52	3.00	1.25	.00	.00	-.20	*.70
18		4.80	8.18	9.40	3.82	1.02	-.10	.70	-.20	*.70
19		5.15	8.48	9.88	3.05	1.48	-.10	.70	-.20	*.70
20		5.30	8.75	9.32	3.42	1.02	-.10	.05	-.20	*.70
21		5.35	9.02	9.15	3.15	1.08	-.10	.60	-.20	*.70
22		5.55	9.35	9.05	2.02	1.48	-.05	.60	-.20	*.70
23		8.00	6.00	9.02	8.02	2.70	1.92	.00	.60	-.20
24		2.80	5.82	10.03	8.75	2.60	1.85	.00	.45	-.20
25		2.40	5.55	10.02	8.00	2.60	1.30	.00	.40	-.20
26		2.12	5.00	11.18	8.42	2.40	1.20	.00	.30	-.20
27		1.88	4.60	11.42	8.28	2.38	1.20	.00	.30	-.20
28		1.68	4.40	11.55	7.90	2.45	1.10	.00	.30	-.30
29		1.28	4.02	11.46	7.46	2.08	1.10	.00	.30	-.80
30		1.15	5.08	11.10	6.08	2.70	1.40	.00	.30	-.35
31		1.22	10.52		2.05	1.45		.30		-.60

\*Increased gage height due to back water from les gorge below gaging station.

DAILY GAGE HEIGHT, IN FEET,  
Of Green River at Ouray, Utah, for 1905.

Day	Jan.	Feb.	March	April	May	June	July
1	0.5	0.8	1.45	1.15	4.32	8.45	5.75
2	.5	.8	1.55	1.1	4.75	8.75	5.55
3	.5	.82	1.72	1.1	5.0	9.25	5.48
4	.5	.88	1.92	1.0	5.6	9.72	5.32
5	.5	.95	2.0	1.0	5.95	10.1	5.22
6	.5	1.0	1.9	1.02	5.4	10.28	5.05
7	.5	1.0	1.75	1.1	4.82	10.72	4.85
8	.5	1.0	1.5	1.02	4.45	11.12	4.42
9	.5	1.0	1.25	.92	4.25	11.28	—
10	.5	1.0	1.1	1.0	4.1	10.95	—
11	.55	1.0	1.0	1.5	4.22	10.4	—
12	.65	1.0	1.0	1.82	4.4	10.55	—
13	.7	1.0	1.0	2.1	4.7	10.75	—
14	.7	1.02	.95	2.3	4.6	10.22	—
15	.7	1.08	.9	2.3	4.28	9.72	—
16	.7	1.1	1.0	2.3	4.0	9.35	—
17	.7	1.12	1.05	2.3	3.95	8.92	—
18	.7	1.18	1.2	3.05	4.05	8.88	—
19	.7	1.2	1.32	3.05	4.45	8.7	—
20	.7	1.22	1.38	3.3	5.05	8.38	—
21	.7	1.25	1.4	2.05	6.55	8.26	—
22	.7	1.25	1.42	2.7	7.22	8.0	—
23	.7	1.25	1.48	2.0	7.72	7.7	—
24	.7	1.28	1.5	2.75	8.3	7.32	—
25	.7	1.3	1.5	2.05	8.78	6.0	—
26	.7	1.3	1.48	2.75	8.05	6.58	—
27	.7	1.3	1.38	3.05	9.1	6.5	—
28	.7	1.3	1.28	3.2	8.0	6.28	—
29	.7	—	1.18	3.3	8.0	6.1	—
30	.72	—	1.1	3.5	8.72	6.0	—
31	.78	—	1.2	—	8.52	—	—

## PRICE RIVER DRAINAGE BASIN.

### Price River near Helper, Utah.

Price River rises in the Wasatch Mountains, in the southeastern part of Utah County, flows in a general southeasterly direction, and unites with Green River at a point about 14 miles above Green River, Utah. The main source of supply is the snow in the upper reaches of the basin, where elevations range from 8,000 to 9,000 feet. The region is extremely rough and rugged. The principal rock is a loose and badly disintegrated sandstone. There is but little soil and practically no vegetation except for small groves of scrubby cedar and a few scattered pines. The original scanty underbrush and grass have been almost entirely tramped out by sheep and cattle. The river is subject to floods in the spring and early summer, during which time it carries immense quantities of sediment. Gordon and Pleasant creeks are the main tributaries. They are both short, steep streams and enter the river from the west almost at right angles.

The gaging station was established February 21, 1904. It is located on the upper side of the ford near the settlement of Spring Glen, about 3 miles south of Helper, Utah, and 350 feet west of the main line of the Denver and Rio Grande Railroad.

The channel is straight for about 125 feet above and 400 feet below the station, and the banks are sufficiently high to prevent any overflow. The bed of the stream is composed of fine gravel and sand and shifts slightly, especially during high water. Information in regard to winter conditions is incomplete.

Low-water measurements are made by wading. The initial point for soundings is a 2 by 4-inch post driven in the left bank S. 8 degrees W.,  $2\frac{1}{2}$  feet from the gage. The course of the section is N. 44 degrees W. A 2 by 4-inch

post marks the position of the gaging station on the right bank.

In April, 1906, a cable gaging station was established by H. S. Klinschmidt for use during high water.

The gage, which was read daily during 1905 by John Tryon, is a staff driven into the stream bed and supported at the top by a timber buried in the bank. The gage is referred to bench marks as follows: (1) A Standard United States Geological Survey cap cemented in a sand-stone boulder embedded in the bank at a point S. 65 degrees E. 23 feet from the gage; elevation, 12.55 feet above the zero of the gage, and so marked. (2) A cross chiseled on a large boulder embedded in the bank S. 6 degrees E. 19.2 feet from the gage, marked "B. M.;" elevation, 11.19 feet above the zero of the gage.

A description of this station, with gage height and discharge data, is contained in Water-Supply Paper No. 133 of the United States Geological Survey, pages 128-130.

DISCHARGE MEASUREMENTS  
Of Price River near Helper, Utah.

Date.	Hydrographer.	Gage height.		Discharge Second-ft.
		Feet.		
1804. October 22				31
1905. July 1				110

The measurements were made at a point 1 mile west of Helper, before regular station was established.

The observations at this station during 1904 have been made under the direction of G. L. Swendsen, district engineer.

DISCHARGE MEASUREMENTS  
Of Price River near Helper, Utah, in 1904.

Date	Hydrographer	Area of Section.	Mean velocity	Gage height	Discharge
					Second-feet
February 20	C. Tanner	23	1.08	3.33	25
April 1	W. P. Hardesty	45	1.51	3.03	68
June 11	W. Swendsen	105	2.55	4.32	268
September 2	C. Tanner	29	.94	34.3	27
December 6	W. Swendsen	3.3	1.41	3.20	6

MEAN DAILY GAGE HEIGHT.  
In Feet, of Price River near Helper, Utah, for 1904.

Day.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
1		3.03	3.05	4.30		3.75	3.50	3.50	3.40	3.35	3.40
2		3.53	3.00	4.20		3.75	3.55	3.50	3.40	3.35	3.40
3		3.43	3.01	4.32		3.75	3.45	3.50	3.40	3.30	3.40
4		3.50	3.00	4.25		3.05	3.45	3.50	3.40	3.30	3.40
5		3.40	3.70	4.30		3.65	3.45	3.50	3.40	3.30	3.40
6		3.60	3.70	4.35		3.05	3.45	3.50	3.40	3.30	3.40
7		4.50	3.00	4.00		3.00	3.45	3.00	3.40	3.30	3.30
8		3.60	3.70	4.00		3.70	3.45	3.50	3.40	3.30	3.25
9		3.40	3.80	4.70		3.00	3.40	3.50	3.40	3.30	3.30
10		3.50	3.00	4.85		3.65	3.40	3.50	3.45	3.30	3.30
11		3.50	4.20	4.00	4.80	3.60	3.40	3.50	3.60	3.30	3.30
12		3.40	4.10	4.00	4.80	3.50	3.45	3.50	3.60	3.30	3.25
13		3.40	4.10	4.00	4.25	3.55	3.55	3.50	3.60	3.30	3.25
14		3.50	4.20	4.05	4.20	3.50	3.55	3.55	3.45	3.30	3.25
15		3.40	4.40	4.70	4.20	3.55	3.55	3.50	3.60	3.30	3.25
16		3.40	4.10	4.70	4.15	3.50	3.45	3.50	3.45	3.40	3.25
17		3.40	4.10	4.70	4.15	3.50	3.50	3.45	3.45	3.45	3.25
18		3.50	4.10	4.75	4.15	3.50	3.60	3.40	3.40	3.40	3.25
19		3.50	4.20	4.70	4.00	3.50	3.40	3.45	3.40	3.40	3.30
20		3.33	3.00	4.30	4.00	4.15	3.50	3.40	3.40	3.40	3.30
21		3.32	3.40	4.10	4.65	4.00	3.50	3.45	3.65	3.40	3.40
22		3.33	3.00	4.00	4.60	3.05	3.50	3.40	3.40	3.40	3.30
23		3.33	3.40	4.00	4.50	3.95	3.55	3.40	3.25	3.40	3.30
24		3.45	3.00	3.00	4.00	4.00	3.50	3.45	3.40	3.40	3.30
25		3.42	3.00	3.00	†	3.95	3.50	3.45	3.40	3.40	3.40
26		3.00	3.50	4.00		3.05	3.50	3.45	3.40	3.35	3.30
27		3.63	3.40	4.00		3.85	3.50	3.65	3.40	3.35	3.40
28		3.63	3.50	4.10		3.85	3.55	3.50	3.45	3.35	3.40
29		3.60	3.00	4.00		3.75	3.00	3.60	3.40	3.35	3.00
30		3.00	4.20			3.74	3.55	3.50	3.40	3.35	3.35
31		3.00					3.65	3.50	3.35	3.35	3.30

\*Gage replaced.      †Gage washed out.

†Flood of four hours' duration this day from cloudburst; average gage height 8 feet; maximum gage height 0.50.

**RATING TABLE**  
For Price River near Helper, Utah, from February 20, to December 31, 1904.

Gage height Feet	Dis-charge Second-feet						
3.20	5	3.00	63	4.00	172	4.60	346
3.25	9	3.05	74	4.05	186	4.70	375
3.30	14	3.70	87	4.10	201	4.80	404
3.35	20	3.75	100	4.15	215	4.90	433
3.40	27	3.80	114	4.20	230	5.00	462
3.45	36	3.85	143	4.30	250	6.00	762
3.50	44	3.90	128	4.40	283	7.00	1,042
3.55	53	3.95	167	4.50	317	8.00	1,332

The above table is applicable only for open-channel conditions. It is based upon 5 discharge measurements made during 1904. It is well defined between gage heights 3.20 feet and 3.70 feet. The table has been extended above gage height 4.30 feet. Above gage height 3.00 feet the rating curve is a tangent determined by one measurement at 4.30 gage height, the difference being 20 per tenth.

**ESTIMATED MONTHLY DISCHARGE**  
Of Price River, near Helper, Utah, for 1904.

Month	Discharge in Second-feet			Total in Acre-feet
	Maximum	Minimum	Mean	
February 20-20.....	70	10	38.0	754
March .....	70	27	44	2,703
April .....	288	63	162	9,640
May 1-24.....	433	230	335	16,050
June 11-30.....	250	97	183	7,205
July .....	100	44	57.0	3,542
August .....	63	27	38.7	2,390
September .....	63	0	38.1	2,207
October .....	63	20	20.6	1,814
November .....	35	14	21.2	1,202
December .....	63	0	17.8	1,004
The period .....	433	0	88	48,070

DISCHARGE MEASUREMENTS  
Of Price River near Helper, Utah, in 1904.

Date	Hydrographer	Area of Section.	Mean	Gage	Discharge
			velocity	height	
		Square feet	Feet per second	Feet	Second-feet
February 20	C. Tanner	23	1.08	3.33	25
April 1	W. P. Hardesty	45	1.51	3.63	68
June 11	W. Swendsen	105	2.55	4.32	268
September 2	C. Tanner	29	.94	34.3	27
December 6	W. Swendsen	3.3	1.41	3.20	5

MEAN DAILY GAGE HEIGHT.  
In Feet, of Price River near Helper, Utah, for 1904.

Day.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
1		3.63	3.05	4.30		3.75	3.50	3.50	3.40	3.35	3.40
2		3.53	3.00	4.20		3.75	3.55	3.50	3.40	3.35	3.40
3		3.43	3.01	4.32		3.75	3.45	3.50	3.40	3.30	3.40
4		3.50	3.00	4.25		3.05	3.45	3.50	3.40	3.30	3.40
5		3.40	3.70	4.30		3.05	3.45	3.50	3.40	3.30	3.40
6		3.50	3.70	4.35		3.05	3.45	3.50	3.40	3.30	3.40
7		4.50	3.00	4.60		3.60	3.45	3.60	3.40	3.30	3.30
8		3.60	3.70	4.00		3.70	3.45	3.50	3.40	3.30	3.25
9		3.40	3.80	4.70		3.60	3.40	3.60	3.40	3.30	3.30
10		3.50	3.90	4.85		3.65	3.40	3.50	3.45	3.30	3.30
11		3.60	4.20	4.00	*4.30	3.60	3.40	3.60	3.50	3.30	3.80
12		3.40	4.10	4.00	4.30	3.50	3.45	3.60	3.60	3.30	3.25
13		3.40	4.10	4.00	4.25	3.65	3.55	3.60	3.60	3.30	3.25
14		3.60	4.20	4.05	4.20	3.60	3.55	3.65	3.65	3.30	3.25
15		3.40	4.40	4.70	4.20	3.65	3.55	3.60	3.60	3.30	3.25
16		3.40	4.10	4.70	4.15	3.60	3.45	3.60	3.45	3.40	3.25
17		3.40	4.10	4.70	4.15	3.60	3.50	3.65	3.45	3.45	3.25
18		3.60	4.10	4.75	4.15	3.60	3.60	3.60	3.40	3.40	3.25
19		3.60	4.20	4.70	4.00	3.60	3.40	3.65	3.40	3.40	3.30
20		3.33	3.00	4.30	4.00	4.15	3.60	3.40	3.40	3.40	3.30
21		3.32	3.40	4.10	4.55	4.00	3.60	3.45	3.65	3.40	3.30
22		3.33	3.00	4.00	4.50	3.95	3.60	3.40	3.40	3.40	3.30
23		3.33	3.40	4.00	4.50	3.95	3.65	3.40	3.25	3.40	3.30
24		3.45	3.00	3.00	4.00	4.00	3.60	3.45	3.40	3.40	3.30
25		3.42	3.00	3.00	†	3.95	3.60	3.45	3.40	3.40	3.30
26		3.60	3.60	4.00	—	3.95	3.60	3.45	3.40	3.35	3.30
27		3.53	3.40	4.00	—	3.85	3.60	3.65	3.40	3.35	3.40
28		3.03	3.50	4.10	—	3.85	3.65	3.60	3.45	3.35	3.40
29		3.00	3.00	4.00	—	3.75	3.60	3.50	3.40	3.35	3.30
30		3.00	4.20	—	—	3.74	3.65	3.60	3.40	3.35	3.35
31		3.00	—	—	—	3.65	3.60	3.65	3.40	3.35	3.30

\*Gage replaced.      †Gage washed out.

†Flood of four hours' duration this day from cloudburst; average gage height 8 feet; maximum gage height 0.60.

**RATING TABLE**  
For Price River near Helper, Utah, from February 20, to December 31, 1904.

Gage height Feet	Dis-charge Second-feet						
3.20	5	3.60	63	4.00	172	4.60	346
3.25	9	3.65	74	4.05	186	4.70	375
3.30	14	3.70	87	4.10	201	4.80	404
3.35	20	3.75	100	4.15	215	4.90	433
3.40	27	3.80	114	4.20	230	5.00	462
3.45	35	3.85	143	4.30	250	6.00	752
3.50	44	3.90	128	4.40	283	7.00	1,042
3.55	53	3.95	157	4.50	317	8.00	1,332

The above table is applicable only for open-channel conditions. It is based upon 5 discharge measurements made during 1904. It is well defined between gage heights 3.20 feet and 3.70 feet. The table has been extended above gage height 4.30 feet. Above gage height 3.00 feet the rating curve is a tangent determined by one measurement at 4.30 gage height, the difference being 20 per tenth.

**ESTIMATED MONTHLY DISCHARGE**  
Of Price River, near Helper, Utah, for 1904.

Month	Discharge in Second-feet			Total in Acre-feet
	Maximum	Minimum	Mean	
February 20-20	70	10	39.0	764
March	70	27	44	2,703
April	288	63	102	6,640
May 1-24	433	230	335	15,050
June 11-30	250	97	183	7,205
July	100	44	57.0	3,612
August	63	27	38.7	2,380
September	63	0	38.1	2,207
October	63	20	29.5	1,814
November	35	14	21.2	1,202
December	63	0	17.8	1,004
The period	433	9	88	48,070

**DISCHARGE MEASUREMENTS**  
Of Price River, near Helper, Utah, in 1905.

Date	Hydrographer	Width	Area of section	Mean velocity	Gage height	Discharge
		Feet	Square feet	Feet per second	Feet	Second-feet
January 21	C. Tanner	38	25	0.87	3.35	22
February 17	W. G. Swendsen	48	37	1.02	3.40	38
March 17	do	52	50	1.36	3.65	68
April 25	do	55	63	1.88	3.95	119
May 13	do	53	78	1.96	4.00	154
June 2	do	79	153	3.76	4.92	575
August 24	A. B. Larson	47	24	.48	3.22	11.5

DAILY GAGE HEIGHT, IN FEET,  
Of Price River, near Helper, Utah, for 1905.

Day	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
1	3.3	3.35	3.45	3.55	4.5	4.0	3.5	3.4	3.2	3.5	3.3	3.3
2	3.3	3.35	3.45	3.6	4.5	4.0	3.4	3.4	3.2	3.5	3.3	3.3
3	3.35	3.35	3.45	3.05	4.5	4.0	3.4	3.5	3.2	3.4	3.4	3.3
4	3.3	3.35	3.45	3.05	4.8	4.0	3.4	3.4	3.2	3.4	3.4	3.3
5	3.3	3.35	3.45	3.05	4.2	4.0	3.4	3.4	3.3	3.4	3.3	3.3
6	3.3	3.35	3.45	3.45	4.2	4.8	3.4	3.4	3.4	3.4	3.3	3.3
7	3.3	3.4	3.45	3.15	4.1	4.0	3.4	3.4	3.4	3.4	3.3	3.2
8	3.3	3.4	3.5	3.15	4.2	4.0	3.4	3.3	3.4	3.4	3.3	3.2
9	3.3	3.4	3.45	3.15	4.2	4.5	3.4	3.3	3.4	3.4	3.3	3.2
10	3.3	3.4	3.45	3.15	4.1	4.5	3.4	3.3	3.4	3.4	3.3	3.3
11	3.3	3.4	3.5	3.25	4.0	4.4	3.4	3.4	3.4	3.3	3.3	3.3
12	3.3	3.4	3.4	3.35	4.0	4.3	3.4	3.4	3.3	3.3	3.3	3.3
13	3.4	3.55	3.65	3.35	4.0	4.2	3.4	3.4	3.3	3.3	3.3	3.2
14	3.3	3.6	3.65	3.35	4.1	4.2	3.4	3.3	3.3	3.3	3.3	3.3
15	3.3	3.6	3.65	3.45	4.1	4.2	3.4	3.3	3.2	3.3	3.3	3.2
16	3.3	3.6	3.65	3.5	4.1	4.1	3.4	3.2	3.2	3.3	3.3	3.2
17	3.4	3.6	3.65	3.45	4.3	4.1	3.4	3.2	3.2	3.3	3.3	3.2
18	3.3	3.4	3.05	3.45	4.4	4.1	3.3	3.2	3.2	3.3	3.4	3.2
19	3.3	3.4	3.05	3.45	4.6	4.1	3.3	3.2	3.2	3.3	3.3	3.2
20	3.3	3.4	3.05	3.45	4.8	3.0	3.1	3.2	3.2	3.3	3.3	3.2
21	3.35	3.4	3.05	3.4	4.0	3.0	3.3	3.2	3.2	3.3	3.3	3.2
22	3.35	3.4	3.6	3.4	4.0	3.8	3.3	3.2	3.2	3.4	3.3	3.2
23	3.35	3.6	3.65	3.4	4.0	3.8	3.3	3.2	3.2	3.4	3.4	3.3
24	3.35	3.45	3.65	3.4	4.0	3.7	3.3	3.2	4.5	3.4	3.4	3.2
25	3.35	3.45	3.05	3.05	5.0	3.0	3.4	3.2	3.5	3.4	3.4	3.2
26	3.35	3.5	3.05	4.0	5.0	3.0	3.3	3.2	3.4	3.4	3.3	3.2
27	3.35	3.5	3.6	4.2	5.0	3.0	3.3	3.3	3.3	3.4	3.4	3.2
28	3.35	3.5	3.65	4.3	5.1	3.5	3.3	3.2	3.3	3.4	3.3	3.2
29	3.35	3.5	3.65	4.3	5.1	3.5	3.3	3.3	6.8	3.4	3.2	3.2
30	3.35	3.45	4.4	5.1	5.5	3.3	3.3	3.0	3.4	3.3	3.2	3.2
31	3.35	3.45	4.4	4.0	3.5	3.4	3.3	3.3	3.3	3.3	3.3	3.1

Note.—These gage heights are liable to some error. Observer made no report of ice conditions, but it is probable that the river was frozen for short periods.

**STATION RATING TABLE**  
**For Price River near Helper, Utah, from January 1, to December 31, 1905.**

Gage height Feet	Discharge Second-feet						
3.10	4	3.60	66	4.10	182	4.60	404
3.20	9	3.70	78	4.20	219	4.70	455
3.30	18	3.80	98	4.30	260	4.80	508
3.40	30	3.90	122	4.40	305	4.90	563
3.50	44	4.00	150	4.50	354	5.00	620

Note.—The above table is applicable only for open-channel conditions. It is based on 12 discharge measurements made during 1904-1905. It is well defined between gage heights 3.2 feet and 4.0 feet.

**ESTIMATED MONTHLY DISCHARGE**  
**Of Price River near Helper, Utah, for 1905.**

Month	Discharge (in Second-feet)			Total (in acre-feet)
	Maximum	Minimum	Mean	
January	30	18	21.1	3,207
February	60	24	36.3	2,010
March	60	37	49.8	3,062
April	305	0	71.5	4,254
May	678	150	370	23,300
June	503	41	254	15,110
July	44	18	25.8	1,580
August	44	0	18.8	1,150
September	1,740	0	87.8	5,221
October	44	18	26.3	1,017
November	30	0	20.5	1,220
December	18	1	12.0	738
The year	1,740	1	89.0	60,580

\*No ice record, discharge applied as for open channel.

PRECIPITATION  
At Soldier's Summit in Drainage Basin of Price River.

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Annual
	0.20	0.88	0.88	2.20	0.29	0.12	2.13	—	—	0.71	1.19	—	—
1892	—	0.20	0.53	0.53	0.00	0.23	0.22	0.27	—	—	0.66	4.10	17.21
1893	—	2.20	3.40	0.33	0.45	0.35	1.01	0.17	0.80	0.36	—	—	—
1894	—	3.55	1.68	1.40	0.32	0.62	0.29	0.34	0.32	0.37	1.90	1.65	11.96
1895	—	3.50	1.16	1.15	1.47	1.02	0.35	0.14	0.86	0.49	0.48	0.60	3.25
1896	—	1.82	2.88	5.23	0.67	0.10	0.12	0.02	0.06	2.45	0.65	1.34	11.90
1897	—	1.25	0.62	2.92	1.56	3.12	0.13	0.00	0.10	0.02	0.65	1.15	12.73
1898	—	1.70	3.80	1.40	0.20	0.65	0.44	0.55	0.45	0.01	1.60	0.70	13.84
1899	—	0.50	1.80	0.30	0.49	0.00	0.00	0.25	0.39	0.20	0.20	—	—
1900	—	0.55	3.60	—	—	0.21	0.05	1.00	1.68	0.81	0.92	—	0.90
1901	—	0.55	0.70	0.50	0.04	0.02	0.00	—	—	—	—	—	—
1902	—	0.55	0.20	—	—	0.00	2.00	—	—	—	0.66	13.37	—
1903	—	1.35	1.30	2.98	0.60	2.22	0.73	0.55	1.15	0.62	1.21	0.00	—
1904	—	0.59	1.26	1.23	0.81	0.49	0.00	—	2.06	0.00	1.25	0.37	—
1905	—	0.38	1.65	0.64	0.24	1.17	0.21	0.19	1.20	—	—	—	—
1906	—	—	—	—	—	—	—	—	—	—	—	—	—
Mean	1.45	1.71	1.76	0.59	0.57	0.20	0.35	0.70	0.37	0.50	1.13	1.58	14.11

## DUCESNE RIVER DRAINAGE BASIN.

### *Description of Basin.*

Duchesne River rises in the peaks of the Uinta and Wasatch mountains, flows in a general southeasterly direction, and enters Green River 3 miles above the mouth of the White. It is a very crooked stream, swinging back and forth across its valley, its course marked by a thick line of cottonwoods.

The principal tributaries of the Duchesne are Strawberry, East, and Lake creeks and Uinta River. From the mouth of Strawberry Creek down to Lake Creek the valley of the Duchesne averages 2 miles in width and is bordered on both sides by sandstone bluffs approximately 200 feet high. The cliffs on the northern side of the river are capped by a heavy deposit of coarse river gravel and cobblestones.

Strawberry Creek, the main upper tributary of the Duchesne, drains an area of 1,166 square miles. The stream rises in the Uinta Mountains and the run-off is derived chiefly from melting snow except during the late summer, when the flow comes from small springs well distributed over the entire drainage basin. Numerous tributaries enter the stream, particularly from the north and west, Indian, Bryants Fork, Mud Horse, Sugar Springs, and Co-op creeks being the principal ones. They are all short and fall rapidly until they reach the valley, through which they flow sluggishly in well-defined channels. The main stream traverses the valley from north to south and is very sluggish. Very little sediment is carried by the stream at any stage. The average elevation of Strawberry Valley is 7,500 feet, which is rather high for agricultural purposes but is splendidly adapted to grazing. Indian Creek, on which a gaging station was maintained during 1905, drains a small portion of the southern slopes of the Uinta Mountains. Its basin comprises smooth, rolling hills, fairly well timbered with pine and aspen. The normal flow is derived chiefly from springs. The greater part of the precipitation is in the form of

snow, which covers the ground for six or eight months each year.

Uinta River and its principal tributary, Whiterocks River, have their sources in a series of lakes in the Uinta Mountains, fed by snow that exists the year round in the canyons and on the high slopes. The upper drainage area of these streams is very mountainous and difficult of access. After leaving their canyons, 7 or 8 miles above the Indian agency at Whiterocks, the rivers flow southeast, uniting in various channels between the agency and Fort Duchesne, from which point they flow in one channel, entering Duchesne River 6 miles below, near the Ouray Indian school. Pole, Farm, and Dry Gulch creeks are small tributaries of the Uinta.

### Strawberry Creek in Strawberry Valley, Utah.

This station was established May 2, 1903. It is located in the canyon about one-fourth mile above the junction of Strawberry and Indian creeks, and is somewhat inaccessible, the nearest settlement being Heber, 40 miles away. The chief object of the station is the determination of the amount of water available for storage in Strawberry Valley.

The channel is straight for about 600 feet above and 400 feet below the station. The banks are wooded and are sufficiently high to prevent overflow. The bed of the stream is composed of gravel and during the summer months is overgrown with moss and weeds. The current is sluggish. The stream is frozen during the winter months.

Discharge measurements are made by means of a cable and ear of regular form. The initial point for soundings is the first metal tag on the tagged wire, at the left bank.

Gage readings and discharge measurements during 1905 were made by T. C. Callister. The original gage was of the vertical type and was used until September, 1904, when a new, inclined gage was established at the same locality, about 1,000 feet above the cable. The datum of the new gage is the same as that of the old. The bench mark is a large sandstone boulder S. 82 degrees E. 175 feet from the gage, 12 feet from the bank of the river, and

projecting about 3 feet above the ground. It is marked "Rec. Sed. B. M. No. 7," elevation 19.15 feet above the zero of the gage, and 7,496 feet above sea level. July 2, 1905, a low-water station was established at a riffle about 200 feet below the regular gage, where the velocity is sufficiently high to prevent the growth of vegetation, which interferes seriously with the results at the regular station during the summer months. The gage at this point is a vertical staff driven into the stream bed and is referred to bench mark No. 7, above described, its zero having an elevation of 19.93 feet. The annual discharge at this station is therefore represented by two discharge curves.

The observations at this station during 1903 have been made under the direction of G. L. Swendsen, district hydrographer.

**DISCHARGE MEASUREMENTS  
Of Strawberry River in Strawberry Valley, Utah, in 1903.**

Date.	Hydrographer.	Gage height.	Discharge
		Feet.	Second-ft.
May 12.	C. Tanner	2.10	231
June 18.	W. C. Callister	1.48	133
July 22.	C. Tanner	.00	34
October 24.	do	.78	20

**MEAN DAILY GAGE HEIGHT.**  
**In Feet, for Strawberry River in Strawberry Valley, Utah, for 1903.**

Day	May	June	July	Aug.	Day	May	June	July	Aug.
1			1.02	0.82	17	2.22	1.57	0.87	0.77
	2.42	1.02	.82		18	2.10	1.42	.05	.77
3	2.52	1.02	.82		19	2.00	1.40	.05	.77
4	2.53	1.00	.80		20	1.07	1.33	.00	.77
5	2.42	.97	.80		21	2.00	1.30	.00	.80
6	2.43	.97	.80		22	2.07	1.23	.00	.80
	2.45	.97	.80		23	1.83	1.20	1.05	.80
	2.45	.97	.80		24	2.01	1.15	1.00	.80
8	2.15	.95	.80		25	1.03	1.15	.05	.80
9	2.07	.95	.77		26	1.85	1.12	.02	
10	2.01	.95	.77		27	1.87	1.07	.00	
11	1.91	.90	.77		28	2.00	1.05	.00	
12	2.10	1.83	.90	.77	29	1.07	1.05	.87	
13	2.22	1.78	.90	.77	30		1.02	.85	
15	2.22	1.05	.87	.77	31				
16	2.30	1.00	.87	.77					

RATING TABLE  
For Strawberry River in Strawberry Valley, Utah, for 1903.

Gage height	Discharge						
Feet	Second-feet	Feet	Second-feet	Feet	Second-feet	Feet	Second-feet
0.7	15	1.2	90	1.7	165	2.2	245
.8	30	1.3	105	1.8	181	2.3	261
.9	45	1.4	120	1.9	197	2.4	277
1.0	60	1.5	135	2.0	213	2.5	293
1.1	75	1.6	150	2.1	229	2.6	309

ESTIMATED MONTHLY DISCHARGE  
For Strawberry River in Strawberry Valley, Utah, for 1903.

Month	Discharge in Second-feet			Total in Acre-feet
	Maximum	Minimum	Mean	
May 12-31*	271	180	225	8,020
June†	208	63	160	9,878
July‡	63	35	50	3,074
August 1-25	33	25	28	1,388

\*May 30 and 31 interpolated. †June 1 interpolated. ‡July 31 interpolated.

DISCHARGE MEASUREMENTS  
Of Strawberry River in Strawberry Valley, Utah, in 1904.

Date	Hydrographer	Area of section	Mean velocity	Gage height	Discharge
		Square foot	Feet per second	Feet	Second-feet
May 22.....	O. Tanner.....	108	8.88	2.05	420
June 1.....	do .....	84	8.00	2.25	257
June 10....	F. Thomas .....	86	1.04	{ (2.20) }	141
June 16.....	O. Tanner.....	78	1.07	{ 1.80 }	131
June 28.....	do .....	61	1.81	{ 1.50 }	70
July 0.....	F. Thomas .....	61	1.07	{ (1.75) }	64
July 17.....	do .....	60	.93	{ 1.00 }	56
August 20.....	do .....	80	1.17	{ .95 }	35
September 22.....	O. Tanner.....	26	1.03	.98	27

Note.—Gage heights in parentheses are taken from the new gage rod at cable section, which are of no value in season of growing moss, as gage reading does not fall as creek diminishes in volume.

**ESTIMATED MONTHLY DISCHARGE\***  
Of Strawberry River in Strawberry Valley, Utah, for 1904.

Month	Discharge in Second-feet			Total in Acre-feet
	Maximum	Minimum	Mean	
January	27	27	27	1,660
February	27	27	27	1,553
March	27	27	27	1,660
April	224	27	97	5,771
May	472	230	372	22,870
June	257	74	145	8,627
July	74	48	58	3,566
August	48	34	40	2,159
September	33	27	29	1,725
October	27	27	27	1,660
November	27	27	27	1,660
December	27	27	27	1,660
The year	472	27	75	54,820

\*Estimated by C. Tanner from meter measurements, interpolated gage heights, and temperature records.

**DISCHARGE MEASUREMENTS**  
Of Strawberry River in Strawberry Valley, Utah, in 1905.

Date	Hydrographer	Width	Area of section	Mean velocity	Gage height	Discharge
		Foot	Square foot	Feet per second	Foot	Second-foot
January 8*	C. Tanner	28	20	1.01	-----	20
April 17	T. C. Callister	64	75	1.63	1.43	122
April 21	do	64	81	1.72	1.64	140
April 20	do	66	170	2.01	3.15	407
May 1	do	64	125	2.1	2.28	202
May 4	do	64	96	1.83	1.80	170
May 18	do	64	112	2.01	2.12	226
May 23	T. Thomas	68	156	2.30	2.78	368
June 17	T. C. Callister	63	63	1.30	1.20	87
June 25	do	62	53	1.08	.98	57
July 2†	do	37	36	1.23	1.50	44
July 12†	do	37	32	1.11	1.40	35
July 23†	do	37	29	.92	1.31	26
December 8*	A. B. Larson	31	41	.83	1.07	34
December 9*	do	34	45	.83	1.76	87
December 11*	do	34	50	.70	1.85	38
December 13*	do	32	46	.80	1.95	37
December 18*	do	26	46	.73	2.22	34

\*Creek frozen.

†Measurement made at riffle 200 feet below gage. Gage heights refer to temporary gage at riffle.

**DAILY GAGE HEIGHT,**  
In Feet, of Strawberry River in Strawberry Valley, Utah, for 1905.

Day	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
1		2.23	2.35	0.81	1.32	1.27	1.42	-----	1.56
2		2.11	2.34	1.5	1.32	1.3	1.38	1.37	1.58
3		2.06	2.28	1.5	1.32	-----	1.38	-----	1.56
4		1.89	2.24	1.48	1.33	1.3	1.38	1.35	1.56
5		1.74	2.11	1.47	1.32	1.33	1.38	-----	1.54
6		1.66	2.0	1.45	1.3	-----	1.38	1.35	1.51
7		1.64	1.96	1.44	1.29	1.35	1.35	-----	1.6
8		1.68	1.94	1.43	1.27	1.36	-----	1.38	1.67
9		1.76	1.89	1.42	1.27	1.37	1.34	-----	1.75
10		1.76	1.76	1.41	-----	-----	1.33	1.38	1.75
11		1.67	1.65	1.41	1.33	-----	1.35	-----	1.85
12		1.74	1.56	1.4	1.32	1.31	-----	-----	1.91
13		1.05	1.72	1.48	1.39	1.3	1.31	1.36	1.41
14		1.28	1.64	1.4	1.39	1.3	-----	1.35	1.99
15		1.3	1.6	1.3	1.48	1.28	-----	-----	2.09
16		1.34	1.7	1.28	1.41	1.27	1.3	1.33	2.12
17		1.42	1.94	1.24	1.38	-----	1.3	1.32	2.15
18		1.42	2.08	1.25	1.36	-----	1.33	-----	2.22
19		1.53	2.2	1.17	1.35	1.25	1.3	1.47	2.23
20		1.47	2.35	1.13	1.37	1.25	1.31	1.45	2.24
21		1.72	2.49	1.09	1.36	1.25	-----	-----	2.27
22		1.84	2.61	1.06	1.38	1.25	1.32	1.43	-----
23		1.88	2.74	1.02	1.37	1.25	1.31	-----	1.43
24		2.24	2.59	1.0	1.35	-----	-----	-----	-----
25		2.88	2.63	.98	1.35	-----	1.45	1.32	1.42
26		2.0	2.6	.05	1.33	-----	1.4	1.32	1.41
27		2.47	2.48	.93	1.3	-----	1.35	1.32	1.48
28		2.38	2.46	.9	1.31	1.3	-----	-----	1.5
29		2.14	2.3	.9	1.31	1.3	1.51	1.35	1.62
30		2.26	2.2	.89	1.31	1.31	1.40	-----	1.58
31				2.20	-----	1.31	1.29	-----	1.38

Note.—Gage heights after July 2 refer to new gage at riffle, as the old gage heights were unreliable after that date on account of growing moss.

November 23-26 there was ice along the edges but the flow was unobstructed. November 27-28 back water caused by ice. November 29 to December 31 the creek was frozen completely over. Gage heights are to water surface.

**STATION RATING TABLE**  
For Strawberry Creek in Strawberry Valley, Utah, from April 13 to July 1, 1905.

Gage height Feet	Dis-charge Second-feet						
0.80	41	1.40	110	2.00	306	2.60	329
.00	51	1.50	124	2.10	284	2.70	352
1.00	62	1.60	139	2.20	263	2.80	376
1.10	73	1.70	154	2.30	243	2.90	400
1.20	85	1.80	170	2.40	224	3.00	425
1.30	97	1.90	187	2.50	205		

Note.—The above table is based on nine discharge measurements made during April to June, 1905. It is well defined between gage heights 0.0 foot and 3 feet.

**STATION RATING TABLE**  
For Strawberry Creek in Strawberry Valley, Utah, from July 2 to November 25, 1905.

Gage height Feet	Dis-charge Second-feet						
1.25	23	1.35	31	1.45	39	1.50	41
1.30	27	1.40	35				

Note.—The above table is based on three discharge measurements made during July, 1905. It is well defined.

**ESTIMATED MONTHLY DISCHARGE**  
Of Strawberry Creek in Strawberry Valley, Utah, for 1905.

Month	Discharge in Second-feet			Total in Acre-feet
	Maximum	Minimum	Mean	
April 13-30	400	68	102	0,855
May	302	130	225	13,810
June	274	50	120	7,070
July	44	27	31.0	2,128
August	29	23	26.1	1,605
September	45	25	30.7	1,827
October	42	29	32.5	1,008
November	38	31	35.0	2,083
December*	35	35	35.0	2,152
The period	400	23	82.0	40,100

\*Daily discharge estimated at 35 second-feet, based on five discharge measurements.

Note.—Daily discharge interpolated for missing gage heights.

### Indian Creek in Strawberry Valley, Utah.

This station was established April 5, 1905. It is located in the canyon about 250 feet above the junction of the creek with Strawberry Creek. It is about 1 mile below the point where Indian Creek leaves Indian Creek Valley and enters the canyon, and is 40 miles from Heber, the nearest post-office. The records will show the amount of water that can be diverted from Indian Creek into the Strawberry Valley storage reservoir.

The channel is straight for about 25 feet above and below the station. The right bank is vertical for about 1½ feet above the bed and then slopes gradually upward; the left bank slopes irregularly from the bed. Both banks are sufficiently high to prevent overflow. The bed of the stream is smooth and rocky and is not liable to shift. A slight growth of moss occurs in the summer, but does not interfere with the rating curve to any great extent. The velocity is medium and the discharge ranges from 20 to 100 second-feet. Definite information in regard to winter conditions is lacking.

Discharge measurements are made from two poles laid across the stream. The initial point for soundings is at the right bank.

The gage, which was read during 1905 by the men at the Reclamation Service camp in Strawberry Valley, under the direction of T. C. Callister, is a large stake driven into the bed about 180 feet above the measuring section. It is referred to a bench mark consisting of a cross on a large sandstone boulder 50 feet south of the river; elevation, 16.28 feet above the zero of the gage and 7,480 feet above mean sea level.

**DISCHARGE MEASUREMENTS**  
Of Indian Creek in Strawberry Valley, Utah, in 1905.

Date	Hydrographer	Width	Area of section	Mean velocity	Gage height	Discharge
		Feet	Square feet	Feet per second	Feet	Second-feet
April 15	T. C. Callister	16	16	0.87	1.00	13.5
April 18	do	17	14	.91	1.00	13.
April 25	J. Thomas	18	18	1.56	1.20	28
April 26	T. C. Callister	18	20	1.95	1.38	40
May 15	do	16	14	1.30	1.10	18.7
June 17	do	16	13	1.72	1.10	22
October 14	do	16	8.8	1.10	.92	9.1
December 9	A. B. Larson	14	16	.63	1.46	10.1
December 10*	do	14	12	.78	1.25	9.8
December 11*	do	12	18	.72	1.67	12.8
December 13*	do	14	25	.52	1.81	12.9
December 19*	do	13	23	.47	2.08	10.0

\*Ice measurement.

**DISCHARGE MEASUREMENTS**  
Of Indian Creek at point of diversion in Strawberry Valley, Utah, in 1905.

Date	Hydrographer	Width	Area of section	Mean velocity	Gage height	Discharge
		Feet	Square feet	Feet per second	Feet	Second-feet
May 21	T. C. Callister	10	6.8	1.12	0.71	7.0
May 10	Callister and Thomas	18	11	1.34	.92	16
May 17	T. C. Callister	18	16	1.02	1.11	26
May 5	do	18	16	1.02	1.11	26
May 3	do	18	19	1.77	1.3	33
April 21	do	10	21	1.78	1.41	37

**DAILY GAGE HEIGHT,**  
In Feet, of Indian Creek in Strawberry Valley, Utah, for 1905.

Day.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
1		1.1	1.2	1.02	1.0	.95	---	---	1.2
2		1.13	1.2	1.02	1.0	.95	.96	---	1.2
3		1.12	1.21	1.02	1.0	---	.95	---	1.16
4		1.1	1.2	1.02	1.0	.95	.93	0.92	1.11
5		1.08	1.2	1.02	1.0	1.0	.93	---	1.1
6		1.06	1.19	1.02	.98	---	.93	0.92	1.1
7		1.06	1.18	1.02	.98	1.0	.93	---	1.3
8		1.1	1.17	1.02	.97	.98	---	.91	1.44
9		1.11	1.16	1.01	.98	.96	.93	---	1.46
10		1.11	1.13	1.01	---	---	.92	.92	1.25
11		1.1	1.11	1.0	1.0	---	.93	---	1.07
12		1.1	1.12	1.0	.99	.95	---	---	1.75
13		1.11	1.12	1.0	1.0	.94	.92	.86	1.83
14		1.0	1.00	1.11	1.0	.99	---	.92	1.9
15		1.0	1.1	1.11	1.01	.98	---	---	1.94
16		1.01	1.12	1.11	1.0	.97	.94	.92	2.0
17		1.02	1.10	1.1	1.0	---	---	.92	2.01
18		1.0	1.22	1.11	1.0	---	.95	---	2.03
19		1.02	1.3	1.1	.99	.96	.94	.95	2.08
20		1.04	1.31	1.08	1.0	.96	.93	.93	2.00
21		1.14	1.34	1.08	1.0	.96	---	---	2.16
22		1.15	1.37	1.06	1.0	.97	.95	.92	---
23		1.15	1.30	1.05	1.0	.95	.93	---	.88
24		1.30	1.35	1.05	1.0	---	---	---	---
25		1.56	1.32	1.05	1.0	---	.98	.92	.87
26		1.25	1.31	1.04	1.0	---	.95	.92	.88
27		1.14	1.3	1.04	.98	---	.94	.92	1.0
28		1.15	1.20	1.03	1.0	.97	---	---	1.2
29		1.07	1.28	1.04	1.0	.97	1.01	.94	1.58
30		1.07	1.24	1.03	1.0	.98	.99	---	1.4
31			1.24	---	1.0	.97	---	.96	---

Note.—Creek frozen November 27 to December 31.

**STATION RATING TABLE**  
For Indian Creek in Strawberry Valley, Utah, from April 14 to November 20, 1905.

Gage height	Discharge						
Feet	Second-feet	Feet	Second-feet	Foot	Second-foot	Foot	Second-feet
0.00	8.2	1.10	20	1.30	35	1.50	51
1.00	13.2	1.20	27	1.40	43	1.60	60

Note.—The above table is applicable only for open-channel conditions. It is based on seven discharge measurements made during 1905. It is well defined between gage heights 0.0 foot and 1.4 feet.

**ESTIMATED MONTHLY DISCHARGE**  
**Of Indian Creek in Strawberry Valley, Utah, for 1905.**

Month	Discharge in Second-feet			Total in Acre-feet
	Maximum	Minimum	Mean	
April 14-31	56	13	22.3	752
May	42	17	27.1	1,666
June	28	15	20.9	1,244
July	15	12	13.6	836
August	13	11	12.1	744
September	14	10	11.1	660
October	11	9	9.8	603
November	11	6.5	8.4	500
December*	11	11	11.0	676
The period	56	6.5	15	7,681

\*Daily discharge estimated at 11 second-feet, based on five measurements.  
 Note.—Daily discharge interpolated for missing gage heights.

Beginning April 15, 1905, evaporation and precipitation observations were made at a point near the station. The evaporation records are obtained by means of a 4 by 4 by 4-foot metallic tank set in the ground with its top about 3 inches from the surface. The equipment used in obtaining the precipitation records is of the standard form used by the United States Weather Bureau stations and was furnished by Doctor Hyatt, director of the Utah division of the United States Weather Bureau. The results of the experiments are shown in the following tables:

**EVAPORATION IN STRAWBERRY VALLEY, UTAH,**  
**During 1905.**

	Inches.
April	1.43
May	2.37
June	5.08
July	0.03
August	4.71
September	3.20
October	1.31
Total for period	24.73

**PRECIPITATION IN STRAWBERRY VALLEY, UTAH.**  
During 1905.

	Inches.
April	1.01
May	1.06
June	.17
July	1.08
August	1.28
September	3.04
October	.78
November	Missing
December	2.00
Total for period	10.42

**PRECIPITATION**  
In Strawberry Valley During 1906.

	Inches.
January	2.77
February	*1.98
March	*2.27
April	*1.11
May	2.63
June	3.40
Total for period	14.25
Incomplete.	

Information in regard to this station is contained in the following publications of the United States Geological Survey: (Ann-Annual Report; WS-Water Supply Paper.)

Description: WS 100, p 112; 133, p 121.

Discharge: Ann 21, iv, p 322; 22, iv, p 384; WS 50, p 374; 100, p 112, 133, pp 121, 303.

Discharge monthly: WS 100, p 113; 133, p 122.

Gage heights: WS 100, p 113.

Rating table: WS 100, p 113.

### Currant Creek 13 Miles Above Mouth, Utah.

This station was established May 23, 1904, by C. Tanner. It is located 13 miles above the junction of Deep and Currant Creeks. A plain staff gage graduated to feet and tenths is driven into the bed of the stream. It is read twice each week by Frank Thomas. Discharge measurements are made by wading near the gage. The initial point for soundings is the first tag of the tagged wire at the left bank. The channel is straight for about 150 feet above and 80 feet below the station. The current is swift. The banks of the stream are about 2 feet high, covered with willows, and are liable to overflow. The bed of the stream is composed of boulders and gravel. It is rough and permanent. There is but one channel at all stages.

The observations at this station during 1904 have been made under the direction of G. L. Swendsen, district engineer.

**DISCHARGE MEASUREMENTS**  
Of Currant Creek 18 miles above mouth, Utah, in 1904.

Date	Hydrographer	Area of section	Mean velocity	Gage height	Dis-
					charge
		Square feet	Feet per second	Feet	Second-feet
May 28-----	C. Tanner-----	62	3.02	2.80	186
September 24-----	do -----	11	.68	.80	8

### Currant Creek 3 Miles Above Mouth, Utah.

This station was established April 4, 1904, by C. Tanner. It is located at the road crossing 3½ miles above the junction of Deep and Currant Creeks. A plain staff gage, graduated to feet and tenths, is driven firmly into the bed of the stream and securely braced. It is read twice each week by Frank Thomas. Discharge measurements are made by wading near the gage. The initial point for soundings is a blazed stake driven into the left bank about 15 feet below the gage rod. The channel is straight for about 200 feet above and 75 feet below the station. The current is swift. The right bank is wooded and overflows only during extremely high water. The left bank is high, wooded, and not subject to overflow. The bed of the stream is composed of coarse gravel, free from vegetation, and is liable to shift at high water. There is but one channel at all stages.

The observations at this station during 1904 have been made under the direction of G. L. Swendsen, district engineer.

## DISCHARGE MEASUREMENTS

Of Curraint Creek three miles above mouth, Utah, in 1904.

Date	Hydrographer	Area of section	Mean velocity	Gage height	Discharge
		Square feet	Feet per second	Feet	Second-feet
April 4	C. Tanner	17	1.90	1.43	32
May 23	do	52	3.87	2.33	202
May 31	do	45	3.57	2.13	150
June 16	do	33	2.83	1.88	94
June 27	do	28	2.20	1.70	65
July 11	F. Thomas	22	2.10	1.50	40
August 4	do	16	1.40	1.35	23
September 25	C. Tanner	16	1.03	1.37	10

**MEAN DAILY GAGE HEIGHT,**  
 In Feet, of Currant Creek, 8 miles above mouth, Utah, for 1904.

### Red Creek Above Narrows, Utah.

This station was established May 31, 1904, by C. Tanner. It is located above the narrows of Red Creek, about 10 miles above the point where the wagon road from Heber City to Fort Duchesne crosses Red Creek. A plain staff gage, graduated to feet and tenths, is driven into the bed of the stream and firmly braced. It is read twice a week by Frank Thomas. Discharge measurements are made by wading near the gage. The initial point for soundings is a blazed stake on the left bank, to which one end of the tagged wire is fastened when the stream is gaged. The channel is straight for 35 feet above and 25 feet below the station. The current is sluggish above and swift below the station. Both banks are low, covered with a willow growth, and liable to overflow during high water. The bed of the stream is composed of clean, sand and gravel and is fairly permanent. There is but one channel at all stages.

The observations at this station during 1904 have been made under the direction of G. L. Swendsen, district engineer.

DISCHARGE MEASUREMENTS  
of Red Creek above narrows, Utah, in 1904.

Date	Hydrographer	Area of section	Mean velocity	Gage height	Discharge
		Square feet	Feet per second	Feet	Second-foot
May 31	C. Tanner	15	1.80	2.40	27
June 6	F. Thomas	12	2.02	1.95	24
October 12	do	1.5	1.12	.60	2

### Duchesne River (West Fork) Above Forks, Utah.

This station was established May 26, 1904, by C. Tanner. It is located 3 miles above the forks of Duchesne River. The original gage was a vertical staff, graduated to feet and tenths, driven into the bed of the stream and

firmly braced. An inclined staff gage, graduated to read directly to feet and tenths, was established October 9, 1904, the datum being 0.78 feet below that of the vertical gage. Gage readings are taken about twice a week by Frank Thomas. Discharge measurements are made by means of a cable and car. The initial point for soundings is the first ring of fine wire around the cable at the right bank. The channel is straight for about 200 feet above and 100 feet below the station. The current is swift. The right bank is low, wooded, and subject to overflow during high water. The bed of the stream is composed of clean sand, gravel and rock, and is permanent. There is but one channel at all stages. The conditions are favorable to accurate measurements. The bench mark is the head of a one-fourth inch bolt driven into the south face of a large pine tree about 85 feet northwest of the gage rod. The tree is blazed above the bolt head and marked "B. M. 6.56" with nails driven into the tree. Its elevation is 6.56 feet above the zero of the inclined gage and 5.78 feet above the zero of the vertical gage.

The observations at this station during 1904 have been made under the direction of G. L. Swendsen, district engineer.

**DISCHARGE MEASUREMENTS  
Of Duchesne River (West Fork) above forks, Utah, in 1904.**

Date	Hydrographer	Area of section	Mean velocity	Gage height	Dis-
					charge
		Square feet	Feet per second	Feet	Second-feet
May 20.....	C. Tanner.....	70	4.20	.50	327
May 30.....	do.....	67	4.07	.30	271
June 0.....	F. Thomas.....	57	3.05	.05	226
June 10.....	C. Tanner.....	49	3.44	.80	107
June 20.....	do.....	37	2.00	.45	98
July 12.....	F. Thomas.....	28	2.11	.20	60
July 18.....	do.....	27	1.07	.15	44
August 3.....	do.....	22	1.46	.00	32
August 10.....	do.....	21	1.40	.00	29
October 8.....	C. Tanner.....	18	1.20	.07	21

MEAN DAILY GAGE HEIGHT  
In Feet, of Duchesne River (West Fork) above forks, Utah, for 1904.

Day	May	June	July	Aug.	Sept.	Oct.
1						
2						
3						
4				0.00		
5						
6			1.05			
7						
8						-0.07
9						
10						
11						
12						
13		1.00		0.20		
14						
15						
16			.80		.00	
17			.80			
18					.15	
19						
20						
21						
22						
23						
24						.05
25						
26		1.50	.45			
27						
28			.40			
29						
30		1.30		.05		
31						

### **Rock Creek (East Creek) 10 Miles Above Mouth, Utah.**

This station was established May 17, 1904, by H. S. Reed. It was originally located at the footbridge at the ford where the Indian trail up Farm Creek to Whiterocks, Utah, crosses Rock Creek, about  $8\frac{1}{2}$  miles above the junction of Rock Creek with the Duchesne River. A plain staff gage was fastened to the left abutment of the bridge, and discharge measurements were made from the footbridge. Bench marks for this gage were established as follows: No. 1 is a nail in the bridge stringer back of the gage rod. Its elevation is 6.33 feet above the zero of the gage. Bench mark No. 2 is the highest point on boulder 15 feet southeast from the gage. Its elevation is 6.87 feet above the zero of the gage. Bench mark No. 3 is in a nail in a stump 55 feet west of the gage rod at the west end of the bridge. Its elevation is 6.50 feet above the zero of the gage.

The station was re-established June 21, 1904, by C. Tanner, at approximately the 7,500 foot contour, about 10 miles above the mouth of the creek,  $1\frac{1}{2}$  miles above the original location. The new gage is a plain staff, graduated to feet and tenths, driven into the bed of the stream and firmly braced. It is read twice each week by Frank Thomas. Discharge measurements are made by means of a cable, ear, and tagged wire. The initial point for soundings is the first metal tag on the tagged wire at the left bank. The channel is straight for 500 feet above and 400 feet below the station. The current is swift. The right bank is low, and liable to overflow during high water. The left bank is high, rocky, and not subject to overflow. The bed of the stream is composed of rock, free from vegetation, and is permanent. There is but one channel at all stages. The chief inaccuracy is developed by the uneven bed. No bench marks have as yet been established for the new gage.

The observations at this station during 1904 have been made under the direction of G. L. Swendsen, district engineer.

**DISCHARGE MEASUREMENTS**  
Of Rock Creek (East Creek) 10 miles above mouth, Utah, in 1904

Date	Hydrographer	Area of section	Mean velocity	Gage height	Discharge
		Square feet	Feet per second	Feet	Second-feet
May 17	H. S. Reed	89	6.47	2.80	576
May 18	do	104	7.35	3.20	740
June 21	C. Tanner	232	4.00	3.60	920
June 25	do	206	3.04	3.25	620
July 20	F. Thomas	135	1.70	2.50	241
August 14	do	128	1.32	2.20	100
September 26	C. Tanner	100	.85	2.11	87
October 4	do	100	.73	2.07	73

**MEAN DAILY GAGE HEIGHT**  
 In Feet, of Rock Creek (Past Creek) 10 miles above mouth, Utah, for 1904.

### Duchesne River (North Fork) Above Forks, Utah.

This station was established May 28, 1904, by C. Tanner. It is located 1 mile above the forks of Duchesne River. The original gage was a vertical staff, graduated to feet and tenths, driven into the bed of the river near the right bank. An inclined-staff gage, reading directly to feet and tenths, was established October 6, 1904, at the same elevation as the vertical gage. The gage is read about twice a week by Frank Thomas. Discharge measurements are made by means of a cable, car, and tagged wire. The initial point for soundings is the first metallic tag on the tagged wire at the left bank. The channel is straight for about 200 feet above and 500 feet below the station. The current is swift. The banks are not liable to overflow. The bed of the stream is composed of large bowlders, and is permanent. There is but one channel at all stages. The roughness of the stream bed gives large inaccuracies in determining depth, and endangers the meter when attempting to secure bottom velocities during high stages. Bench mark No. 1 is the "Knob" in the northeast quadrant of a cross cut in a limsetone ledge about 100 feet southwest of the gage rod, marked by the words "Bench mark" chiseled into the face of the cliff to the north of the cross. Its elevation is 8.39 feet above the zero of the gage. Bench mark No. 2 is the head of a bolt driven into the root of the pine tree to which the cable and gage rods are fastened. It is marked "Bench mark 5.11." Its elevation is 5.11 feet above the zero of the gage.

The observations at this station during 1904 have been made under the direction of G. L. Swendsen, district engineer.

**DISCHARGE MEASUREMENTS**  
Of Duchesne River (North Fork) above forks, Utah, in 1904.

Date	Hydrographer	Area of section	Mean velocity	Gage height	Dis-
					charge
		Square feet	Feet per second	Feet	Second-feet
May 28	C. Tanner	148	5.18	2.50	765
June 19	do	157	5.46	2.65	860
June 26	do	119	3.50	2.00	415
July 12	F. Thomas	96	2.96	1.40	283
July 19	do	82	2.38	1.20	196
August 3	do	72	1.84	1.00	133
August 16	do	64	1.80	.95	116
October 7*	C. Tanner	49	1.06	.76	52

\*Measurements made 200 yards above cable station.

**MEAN DAILY GAGE HEIGHT,**  
In Feet, of Duchesne River (North Fork) above forks, Utah, for 1904.

Day	May	June	July	Aug.	Sept	Oct.
1						
2						
3					1.00	
4						
5						
6						0.71
7						
8					.05	.76
9						
10						.74
11						
12						
13			1.40		.05	
14						
15						
16					.05	
17						
18						
19						
20						
21						
22						
23						
24					.00	
25						
26	2.80	2.00				
27		2.70				
28		2.50	1.05			
29		2.50				
30					1.00	
31						

### Lake Fork (West Fork 10 Miles Above Forks, Utah.

This station was established May 16, 1904, by H. S. Reed. It is located at the outlet of the lower lake on the West Fork, 10 miles above the forks of Lake Fork. It is approximately the 8,500-foot contour. Whiterocks Indian Agency, the nearest post-office, is about 50 miles distant. Fort Duchesne is about 50 miles to the southeast. The original gage was a vertical staff driven into the bed of the stream and braced to a pine tree on the right bank. An inclined staff gage, reading directly to feet and tenths, was established September 30, 1904, by C. Tanner, at the same elevation as the vertical gage. The gage is read by Frank Thomas. Discharge measurements are made by means of a cable, car, and tagged wire at ordinary stages and by wading during low water. The channel is straight for 300 feet above and 150 feet below the station. The current is sluggish above and swift below the station. Both banks are high, wooded, and not liable to overflow. The bed of the stream is rocky, free from vegetation, and permanent. There is but one channel at all stages. Bench mark No. 1 is the head of a one-fourth-inch bolt driven into the north side of the red pine tree which forms the cable support on the right bank. The tree is blazed above the bolt and marked "U. S. G. S. Gage B. M. 8.43." Its elevation is 8.43 feet above the zero of the gage. Bench mark No. 2 is the head of a 30-penny nail driven into the root of a pine tree 45 feet south of bench mark No. 1. Its elevation is 4.25 feet above the zero of the gage. Bench mark No. 3 is the head of a 30-penny nail 2 feet above the ground, driven into the east side of a pine tree 25 feet west of bench mark No. 1. It is marked "U. S. G. S. B. M. Elevation, 1038." Its elevation is 10.38 feet above the zero of the gage.

The observations at this station during 1904 have been made under the direction of G. L. Swendsen, district engineer.

**DISCHARGE MEASUREMENTS**  
Of Lake Fork (West Fork) 10 miles above forks, Utah, in 1904.

Date	Hydrographer	Area of	Mean	Gage	Dis-
		section	velocity	height	charge
		Square feet	Feet per second	Feet	Second- feet
May 16-----	H. S. Reed-----	155	1.99	2.30	309
June 29-----	do-----	156	2.20	2.33	344
September 1----	F. Thomas-----	97	1.21	1.35	117
September 29----	C. Tanner-----	66	.85	1.10	56

Note.—For measurements made of a small creek entering the lake above the station see miscellaneous measurements.

### Lake Fork (East Fork) 8 Miles Above Forks, Utah.

This station was established May 14, 1904, by H. S. Reed. It is located 8 miles above the forks of Lake Fork, 1 mile below the upper Indian camp on the East Fork, at approximately the 7,500-foot contour. Whiterocks Indian Agency, the nearest postoffice, is about 40 miles distant, and Fort Duchesne is about 45 miles to the northeast. The original gage was a plain staff driven into the bed of the stream and braced to an overhanging stump on the left bank. An inclined gage, reading directly to feet and tenths, was established October 2, 1904, by C. Tanner, at the same elevation as the vertical gage. The gage is read by Frank Thomas. Discharge measurements are made by means of a cable car, and tagged wire. The initial point for soundings is the first metal tag on the tagged line at the right bank. The channel is straight for about 300 feet above and 200 feet below the station. The current is swift. The right bank is low, wooded, and liable to overflow during high water. The left bank is high, wooded, and not subject to overflow. The bed of the stream is composed of boulders, free from vegetation, and permanent. There is but one channel at all stages. Bench mark No. 1 is a bolt in the cable post on the right bank. Its elevation is 3.49 feet above the zero of the gage. Bench mark No. 2 is a cross chiseled in a large boulder near the left end of the cable. It has an elevation of 6.39

feet above the zero of the gage, and is marked "U. S. G. S. B. M. 6.39." Bench mark No. 3 is the head of a 30-penny nail driven into the sawed stump of an aspen on the left bank. Its elevation is 8.52 feet above the zero of the gage.

The observations at this station during 1904 have been under the direction of G. L. Swendsen, district engineer.

**DISCHARGE MEASUREMENTS**  
Of Lake Fork (East Fork) 8 miles above forks, Utah, in 1904.

Date	Hydrographer	Area of section	Mean velocity	Gage height	Discharge		
				Square feet	Feet per second	Feet	Second-feet
May 14-----	H. S. Reed-----	91	2.01	1.40	265		
June 28*-----	do -----	94	2.72	1.31	256		
October 2-----	C. Tanner-----	64	1.33	.68	86		

\*Measurement made by wading.

### Lake Fork Below Forks, Utah.

This station was established June 23, 1904, by C. Tanner. It is located just below the forks of Lake Fork, on the trail from Spanish Fork to Whiterocks, Utah. A plain gage, graduated to feet and tenths, is driven vertically into the bed of the stream and securely braced. It is read twice a week by Frank Thomas. Discharge measurements are made by means of a cable, car, and tagged wire. The initial point for soundings is the first metal tag on the tagged wire at the left bank. The channel is straight for about 400 feet above and below the station. The current is swift. The right bank is low, wooded, and liable to overflow during high water. The left bank is high, wooded, and is not subject to overflow. The bed of the stream is composed of large bowlders, free from vegetation, and is somewhat shifting. There is but one channel at all stages. The conditions are unfavorable to accurate measurement, but are the best that can be found.

The observations at this station during 1904 have been made under the direction of G. L. Swendsen, district engineer.

**DISCHARGE MEASUREMENTS**  
Of Lake Fork below forks, Utah, in 1904.

Date	Hydrographer	Area of section	Mean velocity	Gage height	Dis-
					charge
		Square feet	Feet per second	Feet	Second-feet
June 24-----	C. Tanner-----	153	5.06	2.00	772
July 20-----	F. Thomas-----	109	3.38	1.00	369
August 14-----	do -----	106	3.34	1.00	355
September 1-----	do -----	96	2.03	.85	283
September 28-----	C. Tanner-----	70	2.38	.65	168

**ESTIMATED MONTHLY DISCHARGE**  
Of Duchesne River above Lake Creek, Utah, for 1900.  
(Drainage area, 2,247 square miles.)

Month	Discharge in Second-feet			Total in Acre-feet	Run-off	
	Maximum	Minimum	Mean		Second-ft. per square mile	Depth in inches
January -----			204	12,546	0.09	0.10
February -----			204	11,333	0.09	.09
March -----			236	14,536	.10	.12
April -----			230	16,603	.13	.15
May -----			1,306	85,852	.62	.71
June -----			1,023	60,806	.45	.50
July -----			182	11,191	.08	.09
August -----			174	10,699	.08	.09
September -----			181	10,949	.08	.09
October -----			190	12,052	.09	.10
November -----			190	11,306	.09	.10
December -----			218	13,405	.10	.12
The year -----			375	271,298	0.17	2.26

**ESTIMATED MONTHLY DISCHARGE**  
**Of Duchesne River above Lake Creek, Utah, for 1901.**  
**(Drainage area, 2,247 square miles.)**

Month	Discharge in Second-feet			Total in Acre feet	Run-off	
	Maximum	Minimum	Mean		Second-ft. per square mile	Depth in inches
January			185	11,376	0.05	0.09
February			185	10,274	0.08	0.08
March			189	11,621	.09	.10
April			366	21,778	.15	.17
May			1,807	116,642	.85	.98
June			920	55,280	.39	.44
July			347	21,336	.13	.15
August			228	12,475	.09	.10
September			161	9,699	.07	.08
October			189	11,683	.09	.10
November			204	12,139	.09	.10
December			189	11,682	.09	.10
The year			423	305,685	0.18	2.49

**ESTIMATED MONTHLY DISCHARGE**  
**Of Duchesne River above Lake Creek, Utah, for 1902.**  
**(Drainage area, 2,247 square miles.)**

Month	Discharge in Second-feet			Total in Acre feet	Run-off	
	Maximum	Minimum	Mean		Second-ft. per square mile	Depth in inches
January			189	11,683	0.09	0.10
February			730	40,652	.32	.33
March			194	11,938	.09	.10
April			546	32,523	.24	.27
May			1,300	79,001	.58	.67
June			1,000	59,535	.44	.49
July			336	20,688	.10	.12
August			165	10,154	.07	.08
September			170	10,132	.07	.08
October			200	12,294	.09	.10
November			212	12,610	.09	.10
December			208	12,813	.09	.10
The year			404	281,903	0.19	2.54

### Lake Creek, near Myton, Utah.

This station was established July 3, 1900, by C. T. Prall. It is located at the wagon bridge one-half mile above the mouth of the creek. It is 3 miles from the gauging station on Duchesne River at Price Road bridge near Myton and is 17 miles southwest of Fort Duchesne. The gage is a 1 by 4-inch vertical board, 9 feet long, nailed to the down-stream side of the west abutment. During 1903 all discharge measurements were made from the bridge. There is a section 400 feet below the bridge at which measurements may be made by wading. The initial point for sounding is a point marked on the bridge floor at the edge of the east abutment on the right bank. The channel is straight for 75 feet above and for 200 feet below the station. The current is never swift except during flood stages. Both banks are high and are not subject to overflow. The bed of the stream is composed of cobblestones and there is but one channel at all stages. Bench mark No. 1 is a nail in the bridge abutment opposite the 4.5-foot mark on the gage rod. Bench mark No. 2 is a nail in the bridge upright directly over the gage rod. Its elevation is 10.59 feet above the zero of the gage.

**DISCHARGE MEASUREMENTS**  
Of Lake Creek near its mouth, near Myton, Utah, for 1900.

Date	Hydrographer	Gage height	Discharge
		Feet	Sec.ft.
July 3		2.40	256
July 18		2.08	134
August 3		1.96	109
August 16		1.86	96
August 23		1.88	99
August 31		1.80	85
September 7		1.90	101
September 14		1.98	123
October 4		2.05	132
October 31		1.95	102
November 8		1.95	105
November 15		1.93	102
November 23		*2.10	133
December 6		*2.32	148
December 13		*2.38	121
December 20		*2.10	103

\*Ice.

**ESTIMATED MONTHLY DISCHARGE**  
Of Lake Creek near its mouth, near Myton, Utah, for 1900.  
(Drainage area, 475 square miles.)

Month	Discharge in Second-feet			Total in Acre-feet	Run-off	
	Maximum	Minimum	Mean		Second-ft. per square mile	Depth in inches
January			130	*8,300	0.28	0.32
February			130	*7,550	0.28	.29
March			157	*9,090	.33	.38
April			187	*11,115	.39	.44
May			930	*57,230	1.05	2.25
June			631	*40,510	1.43	1.50
July			105	11,900	0.41	.47
August			97	5,964	.20	.28
September			112	6,004	.24	.27
October			117	7,104	.25	.29
November			115	6,848	.24	.27
December			124	7,024	.26	.30
The year			240	180,734	0.51	7.10

\*Approximate.

## DISCHARGE MEASUREMENTS

Of Lake Creek near its mouth, near Myton, Utah, for 1901.

Date.	Hydrographer.	Gage	Discharge
		height. Feet.	
April 12	C. T. Prall, et al.	1.89	94
April 19		1.91	96
April 27		2.28	200
May 4		2.53	290
May 13		3.64	878
May 18		5.90	2,401
May 27		5.20	1,721
June 4		3.45	735
June 12		3.00	536
June 19		2.90	494
June 28		2.69	414
July 6		2.45	276
July 12		2.49	306
July 19		2.20	179
July 26		2.34	244
August 2		2.15	178
August 9		2.30	236
August 16		2.10	162
August 24		2.35	256
August 30		2.33	252
September 6		2.15	175
September 13		2.00	130
September 20		2.00	129
September 27		2.02	129
October 4		1.98	120
October 11		2.02	131
October 18		1.96	116
October 25		1.98	115
November 1		2.05	133
November 8		1.95	111
November 15		1.95	113
November 22		1.90	100
November 29		1.95	108
December 6		1.95	109
December 13		*	

\* Frozen.

**ESTIMATED MONTHLY DISCHARGE**  
**Of Lake Creek near its mouth, near Myton, Utah, for 1901.**  
**(Drainage area, 475 square miles.)**

Month	Discharge in Second-feet			Total in Acre-feet	Run-off	
	Maximum	Minimum	Mean		Second-ft. per square mile	Depth in inches
January -----			95	5,841	0.20	.23
February -----			*95	5,276	.20	.21
March -----			*100	6,149	.21	.24
April -----			*132	7,855	.28	.31
May -----			*1272	78,212	2.68	3.00
June -----			*556	33,084	1.17	1.31
July -----			*250	15,372	.53	.61
August -----			*255	15,679	.54	.62
September -----			*144	8,569	.30	.33
October -----			*132	8,116	.28	.32
November -----			*112	6,004	.24	.27
December -----			*110	6,764	.23	.27
The year-----			*271	197,581	.57	7.81

\*Approximate.

**DISCHARGE MEASUREMENTS**  
Of Lake Creek at wagon bridge (near mouth), Utah, for 1902.

Date	Hydrographer	Gage height	Dis. charge
		Feet	Sec. ft.
1902			
March 21	C. T. Prall	1.86	93
March 28	do	1.92	103
April 4	do	1.92	105
April 11	do	1.90	103
April 18	do	1.90	103
April 25	do	2.00	121
May 2	do	2.04	133
May 9	do	2.33	226
May 16	do	3.20	651
May 23	do	2.70	358
May 30	do	5.85	2,367
June 6	do	4.93	1,735
June 13	do	4.10	1,144
June 20	do	3.10	649
June 27	do	2.70	451
July 5	do	2.55	357
July 12	Prall and Reed	2.30	222
July 19	H. S. Reed	2.25	173
July 25	do	2.05	141
August 1	do	1.95	106
August 9	do	1.92	98
August 15	do	2.06	141
August 22	do	1.89	89
August 29	do	1.03	110
September 5	do	1.80	79
September 12	do	1.80	76
September 19	do	1.85	86
September 26	do	1.95	105
October 3	do	1.92	103
October 10	do	1.90	94
October 24	do	1.92	99
October 31	do	1.90	96
November 14	do	1.90	98
November 21	do	1.03	07
November 28	do	2.50	127
December 5	do	2.50	102
December 13	do	2.00	106
		1.82	70

**DAILY GAGE HEIGHT**  
In Feet, of Lake Creek at wagon bridge (near mouth), Utah, for 1902.

Day.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
1	*	*	*					1.05				
2					2.04							
3										1.92		
4					1.92							
5							2.55		1.80			2.00
6						4.03						

## DAILY GAGE HEIGHT

In Feet, of Lake Creek at wagon bridge (near mouth), Utah, for 1902.—Cont'd.

Day.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
7												
8					2.33			1.92				1.83
9												
10										1.90		
11					1.90		2.30					
12									1.80			1.82
13						4.10						1.90 *
14												
15								2.06				
16					3.20							
17												
18					1.90							
19							2.25		1.85			
20			*			3.10						
21				1.86								1.93
22								1.89				
23					2.70							
24										1.92		
25					2.00			2.05				
26										1.95		
27						2.70						
28					1.92							2.50
29									1.93			
30						5.85						
31											1.90	

\*River frozen.

ESTIMATED MONTHLY DISCHARGE  
Of Lake Creek at wagon bridge, for 1902.  
(Drainage area, 475 square miles.)

Month	Discharge in Second-feet			Total in Acre-feet	Run-off	
	Maximum	Minimum	Mean		Second-ft. per square mile	Depth in inches
January*			90	5,534	0.10	.22
February*			90	4,008	.10	.20
March*			97	5,037	.20	.23
April	130	103	100	6,512	.23	.26
May	2,700	132	718	44,168	1.51	1.74
June	3,000	418	1,238	73,700	2.01	2.01
July	406	110	220	13,600	.40	.53
August	141	89	108	6,650	.23	.27
September	105	76	88	5,232	.18	.20
October	104	94	97	5,004	.20	.23
November	102	96	100	6,512	.23	.26
December*			90	5,534	.10	.22
The year	3,900	78	294	184,271	.55	.75

\*January 1 to March 15 and December 18 to 31, river frozen; quantities estimated.

Note.—The daily discharges were obtained from the discharge measurements by interpolation.

**DISCHARGE MEASUREMENTS**  
**Of Lake Creek near Myton, Utah, in 1903.**

Date	Hydrographer	Gage	Dis-
		height	charge
April 3	H. S. Reed	Feet	Second-ft.
April 9	do	1.93	92
April 18	do	1.98	111
April 24	do	1.90	82
May 2	do	2.03	133
May 8	do	2.11	145
May 16	do	2.42	205
May 22	do	3.00	870
May 29	do	2.72	372
June 5	do	2.65	322
June 13	do	4.70	1,611
June 20	do	5.00	1,780
June 27	do	4.55	1,505
July 2	do	3.50	704
July 10	do	3.05	570
July 17	do	2.70	418
July 24	do	2.75	415
July 31	do	2.00	350
August 7	do	2.35	241
August 15	do	2.15	168
August 22	do	2.12	152
August 28	do	2.05	135
September 5	do	2.00	110
September 21	do	2.03	123
October 9	do	2.15	149
October 21	do	2.08	129
October 21	do	2.08	137
October 30	do	2.05	122
November 28	do	2.18	152

**MEAN DAILY GAGE HEIGHT.**  
**In Feet, of Lake Creek near Myton, Utah, for 1903.**

Day.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.
1								
2		2.11		3.05				
3		1.93						
4								
5			4.70			2.00		
6								
7					2.15			
8		2.42						
9		1.98					2.15	
10				2.70				
11								
12								
13			5.00					
14								
15					2.12			
16		3.00						
17				2.75				
18		1.90						
19								
20			4.55					
21						2.03	2.03	
22		2.72			2.05			
23								
24		2.03		2.60				
25								
26								
27			3.50					
28					2.05			2.18
29		2.55						
30							2.05	
31				2.35				

**ESTIMATED MONTHLY DISCHARGE  
OF LAKE CREEK\* NEAR MYTON, UTAH, FOR 1903.  
(Drainage area, 475 square miles.)**

Month	Discharge in Second-feet			Total in Acre-feet	Run-off*	
	Maximum	Minimum	Mean		Second-ft. per square mile	Depth in inches
April	139	82	108	6,426	0.23	0.26
May	966	139	459	28,223	.97	1.12
June	1,780	687	1,341	79,795	2.82	3.15
July	687	241	411	25,271	.87	1.00
August	205	124	157	9,654	.33	.38
September	136	110	123	7,319	.26	.29
October	149	122	135	8,301	.28	.32
November	152	137	139	8,271	.29	.32
The period	1,780	82	350	173,260	.756	6.81

\*Gage heights were taken at this station only when discharge measurements were taken, and daily discharges were obtained from the discharge measurements by interpolation; therefore the above data are approximate to that extent.

The observations at this station during 1904 have been made under the direction of H. S. Reed, resident hydrographer.

**DISCHARGE MEASUREMENTS  
OF LAKE FORK AT WAGON BRIDGE, UTAH, IN 1904.**

Date	Hydrographer	Width	Area of section	Mean velocity	Gage height	Dis-	Second- feet
						Feet	
March 10	H. S. Reed	40	124	0.52	1.80	64	
April 21	do	40	135	1.22	2.20	165	
April 22	Reed and Murphy	40	138	1.13	2.15	160	
May 10	H. S. Reed	40	234	4.80	4.30	1,123	
June 20	do	40	247	4.98	4.32	1,230	
June 21	do	40	234	4.78	4.15	1,119	
July 1	do	40	182	3.81	3.25	903	
July 25	do	40	154	2.10	2.00	324	
August 31	do	40	160	2.44	2.80	301	
August 31	do	40	143	2.00	2.00	209	
September 26	do	40	134	1.28	2.23	171	

**MONTHLY DISCHARGE  
In Thousands of Acre Feet of Lake Creek near Myton, Utah.  
(Drainage area, 475 square miles.)**

### Duchesne River near Myton, Utah.

This station was established October 26, 1899, by C. C. Babb. It is located at the highway bridge, on the road from Fort Duchesne to Price, Utah, 14 miles from Fort Duchesne. It is 3 miles below the mouth of Lake Creek. The gage is a vertical 2 by 5-inch timber, 12 feet long, nailed to the south side of the west abutment. It is read twice each day by H. Calvert, the storekeeper at Myton, Utah. Discharge measurements are made at all stages from the two-span highway bridge to which the gage is attached. The initial point for soundings is the extreme east end of the bridge stringer. The channel is straight for 100 feet above and for 500 feet below the bridge. The current is sluggish at ordinary stages. The right bank is high, without trees, and will not overflow. The left bank is lower than the right, is covered with underbrush and trees, and will overflow at extreme flood stages. The bed of the stream is sandy and somewhat shifting. The channel is divided into two parts by the center pier of the bridge. The bench mark is a nail in the northwest corner of the store. Its elevation is 15.72 feet above the zero of the gage.

DISCHARGE MEASUREMENTS  
Of Duchesne River at Price Road bridge, near Myton, Utah, for 1899.

Date	Hydrographer	Gage height	Dis-charge
		Feet	Second-feet
October 26	C. C. Babb and	5.48	403
November 16	C. T. Prall	5.50	430
November 29		5.38	380
December 7		5.50	380
December 14		5.10	300

**ESTIMATED MONTHLY DISCHARGE**  
**Of Duchesne River at Price Road Bridge, near Myton, Utah, for 1899.**  
 (Drainage area, 2,746 square miles.)

Month	Discharge in Second-feet			Total in Acre-feet	Run-off	
	Maximum	Minimum	Mean		Second-ft. per square mile	Depth in inches
October			403	24,779	0.15	.17
November			398	23,683	.14	.16
December			347	21,336	.13	.15

**DISCHARGE MEASUREMENTS**  
**Of Duchesne River at Price Road Bridge, near Myton, Utah, for 1900.**

Date.	Hydrographer.	Gage height.	Discharge
		Feet.	Second-ft.
March 10		5.25	283
March 17		5.28	311
March 23		5.50	393
March 31		5.43	328
April 14		5.52	414
April 20		5.48	391
May 5		5.89	583
May 10		7.55	2,674
May 25		8.20	3,807
June 5		7.58	2,667
June 14		6.70	1,466
June 21		6.20	995
June 27		5.98	677
July 11		5.43	441
July 19		5.28	386
August 3		5.10	298
August 18		4.98	247
August 23		5.05	281
September 1		4.98	246
September 7		5.07	279
September 13		5.18	336
September 20		5.08	375
October 4		5.25	325
October 31		5.20	294
November 8		5.18	294
November 15		5.18	291
November 23		5.30	357
December 6		5.38	356
December 13		5.22	316

**DAILY GAGE HEIGHT**  
Of Duchesne River at Price Road Bridge, Utah, for 1900.

Day.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
1	-----	-----	5.48	6.00	8.58	5.75	5.11	4.95	5.31	5.20	5.20	5.20
2	-----	-----	5.32	5.90	8.35	5.65	5.12	4.98	5.31	-----	5.27	5.27
3	-----	-----	5.37	5.88	8.20	5.62	5.11	4.97	5.29	-----	5.33	5.33
4	-----	-----	5.41	5.63	5.83	8.10	5.60	5.12	5.07	5.28	-----	5.39
5	-----	-----	5.42	5.61	5.85	7.65	5.60	5.22	5.15	5.25	-----	5.44
6	-----	-----	5.46	5.58	5.95	7.38	5.50	5.35	5.15	5.22	5.20	5.45
7	-----	-----	5.39	5.51	6.06	7.45	5.42	5.32	5.08	5.20	-----	5.40
8	-----	-----	5.40	5.55	6.10	7.45	5.40	5.20	5.02	5.20	-----	5.40
9	-----	-----	5.30	5.55	6.20	7.24	5.40	5.19	5.10	5.20	-----	5.33
10	-----	-----	5.27	5.60	6.45	7.16	5.39	5.18	5.23	5.19	-----	5.30
11	-----	-----	5.35	5.50	6.70	7.00	5.44	5.11	5.28	5.20	5.20	5.30
12	-----	-----	5.31	5.51	7.04	6.93	5.40	5.10	5.20	5.20	5.19	5.25
13	-----	-----	5.29	5.52	6.93	6.83	5.39	-----	5.18	5.24	5.17	5.23
14	-----	-----	5.30	5.51	6.70	6.73	5.40	-----	5.12	5.24	5.18	-----
15	-----	-----	5.31	4.48	6.71	6.60	5.35	-----	5.09	5.21	5.18	5.23
16	-----	-----	5.29	5.49	7.00	6.50	5.40	5.00	5.07	5.20	5.19	*
17	-----	-----	5.29	5.46	7.28	6.45	5.40	4.99	5.02	5.21	5.19	-----
18	-----	-----	5.29	5.45	7.45	6.39	5.36	4.98	5.01	5.22	5.23	-----
19	-----	-----	5.27	5.43	7.55	6.35	5.31	4.98	5.01	5.22	5.22	-----
20	-----	-----	5.27	5.45	7.48	6.36	5.28	5.00	5.04	5.22	5.27	-----
21	-----	-----	5.29	5.51	7.40	6.23	5.29	5.08	5.09	5.29	5.25	-----
22	-----	-----	5.30	5.59	7.48	6.16	5.29	5.11	5.00	5.28	5.31	-----
23	-----	-----	5.45	5.62	7.80	6.13	5.30	5.05	5.14	5.27	5.30	-----
24	-----	-----	5.70	5.61	8.05	6.10	5.35	5.00	5.30	5.28	5.30	-----
25	-----	-----	5.95	5.61	8.20	6.10	5.37	5.02	5.38	-----	5.20	-----
26	-----	-----	5.69	5.58	8.45	6.03	5.38	-----	5.29	-----	5.24	-----
27	-----	-----	5.73	5.61	9.05	5.90	5.39	-----	5.51	5.28	5.20	-----
28	-----	-----	5.69	5.70	9.35	5.94	5.37	5.00	5.39	5.24	-----	-----
29	-----	-----	5.53	6.15	9.00	5.90	5.24	-----	5.30	5.23	-----	-----
30	-----	-----	5.43	6.05	8.70	5.82	5.17	4.92	5.28	5.23	-----	5.20
31	-----	-----	5.43	-----	8.50	-----	5.12	4.92	-----	5.21	-----	-----

\*Frozen.

**ESTIMATED MONTHLY DISCHARGE**  
Of Duchesne River at Price Road Bridge, near Myton, Utah, for 1900.  
(Drainage area, 2,740 square miles.)

Month	Hydrographer			Total in Acre-feet	Run-off'	
	Maximum	Minimum	Mean		Second-ft. per square mile	Depth in Inches
January	-----	-----	340	20,000	.12	.13
February	-----	-----	340	18,883	.12	.12
March	700	315	394	24,226	.14	.16
April	860	350	467	27,778	.17	.19
May	5880	630	2327	143,082	.85	.98
June	4440	600	1702	101,276	.62	.69
July	570	275	371	23,181	.14	.16
August	350	235	271	16,603	.10	.12
September	450	245	290	17,013	.11	.12
October	330	300	313	10,246	.11	.13
November	330	288	305	18,140	.11	.12
December	395	300	342	21,029	.12	.14
The year	-----	-----	623	452,012	0.23	3.07

**DISCHARGE MEASUREMENTS**  
**Of Duchesne River at Price Road Bridge, near Myton, Utah, for 1901.**

Date.	Hydrographer.	Gage height. Feet.	Discharge Second-ft.
		Second-ft.	
April 6	C. T. Prall, et al.	5.18	264
April 12		5.23	296
April 19		5.30	335
April 27		6.52	1,110
May 4		6.70	1,267
May 10		7.20	1,746
May 18		8.75	5,167
May 27		8.52	4,160
June 4		7.35	2,099
June 12		6.83	1,499
June 19		6.57	1,298
June 24		6.48	1,178
June 29		6.15	913
July 6		5.88	678
July 12		5.96	756
July 19		5.57	456
July 26		5.77	575
August 2		5.41	411
August 9		5.91	716
August 16		5.37	354
August 24		5.55	443
August 30		5.53	422
September 6		5.38	361
September 13		5.25	301
September 20		5.20	272
September 27		5.27	310
October 4		5.23	294
October 11		5.32	326
October 18		5.38	309
October 25		5.29	295
November 1		5.42	302
November 8		5.32	306
November 15		5.30	299
November 22		5.33	318
November 29		5.28	304
December 6		5.33	332
December 13		*	

\*Frozen.

**MEAN DAILY GAGE HEIGHT**  
**Of Duchesne River at Price Road Bridge, Utah, for 1901.**

Day.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
1				5.20	6.00	7.70	6.12	5.61	5.40	5.24	5.30	5.24
2				5.21	6.83	7.03	6.10	5.45	5.47	5.22	5.29	-----
3				5.20	6.04	7.50	6.02	5.43	5.40	5.22	5.38	-----
4				5.20	6.74	7.33	5.98	5.43	5.39	5.23	5.37	5.24
5				5.14	6.58	7.26	5.90	5.23	5.39	5.23	5.33	5.25
6				5.30	5.12	6.48	7.03	5.84	5.38	5.25	5.33	5.24

**MEAN DAILY GAGE HEIGHT**  
**Of Duchesne River at Price Road Bridge, Utah, for 1901.—Continued.**

Day.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
7			5.20	5.19	6.48	6.98	5.83	5.55	5.37	5.25	5.31	5.27
8			5.31	5.19	6.50	7.18	5.81	5.88	5.37	5.28	5.30	—
9			5.30	5.18	6.55	7.15	5.80	5.73	5.34	—	5.29	5.27
10			5.27	5.28	6.79	7.00	5.83	5.53	5.32	5.28	5.35	5.29
11			5.20	5.25	7.16	6.93	5.94	5.50	5.28	5.29	5.32	5.31
12			5.29	5.24	7.45	6.79	5.99	5.41	5.27	5.30	5.30	5.30
13			5.28	5.20	7.68	6.69	5.78	5.35	5.28	5.31	5.31	*
14			5.23	5.23	7.88	6.69	5.85	5.35	5.29	5.30	5.30	—
15			5.21	5.38	7.95	6.61	5.81	5.30	5.20	5.31	—	—
16			5.20	5.39	8.20	6.51	5.80	5.28	5.15	5.29	—	—
17			5.23	5.30	8.03	6.50	5.65	5.45	5.17	5.28	—	—
18			5.21	5.35	8.88	6.50	5.51	5.48	5.19	5.29	—	—
19			5.24	5.35	9.28	6.53	5.63	5.65	5.18	5.28	—	—
20			5.21	5.39	9.45	6.51	—	6.15	5.20	5.28	5.30	—
21			5.53	9.20	6.47	5.53	5.95	5.19	5.28	5.20	—	—
22			5.66	8.60	6.49	5.48	5.72	5.17	5.28	5.30	—	—
23			5.95	8.03	6.53	5.48	5.62	5.15	5.29	5.27	—	—
24			6.11	7.75	6.48	5.50	5.52	5.18	5.27	5.30	—	—
25			5.21	6.12	7.88	6.44	5.50	5.50	5.19	5.27	5.20	—
26			5.20	6.35	8.15	6.41	5.61	5.44	5.20	5.28	5.28	—
27			6.49	8.65	6.27	5.77	5.49	5.24	5.34	5.27	—	—
28			6.42	8.03	6.16	5.70	5.55	5.25	5.52	5.24	—	—
29			6.26	8.55	6.14	5.63	5.63	5.25	5.60	5.24	—	—
30			6.35	8.20	6.11	5.58	5.90	5.24	5.53	5.22	—	—
31			5.20	—	8.08	—	5.50	5.64	—	5.51	—	—

\*Frozen.

**ESTIMATED MONTHLY DISCHARGE**  
**Of Duchesne River at Price Road Bridge, Utah, for 1901.**  
(Drainage area, 2,746 square miles.)

Month	Discharge in Second-Feet			Total In Acre-Feet	Run-Off	
	Maximum	Minimum	Mean		Sec. feet per square mile	Depth in inches
January				*280	17,217	0.10
February				*280	15,550	.10
March		278	280	17,770	.11	.13
April	1,103	247	498	20,033	.18	.20
May	0,075	1,103	3,109	104,854	1.15	1.33
June	2,802	870	1,485	88,361	.54	.60
July	910	408	507	30,708	.22	.25
August	950	313	453	27,854	.16	.18
September	408	202	307	18,208	.11	.12
October	430	278	322	10,700	.12	.14
November	355	278	316	18,803	.12	.13
December				18,446	.11	.13
The year				601	503,266	.25
	*Frozen.					3.43

**DISCHARGE MEASUREMENTS**  
**Of Duchesne River at Price Road Bridge, Utah, for 1902.**

Date.	Hydrographer.	Gage height.	Discharge
		Feet.	Second-ft.
March 21	C. T. Prall	5.23	294
March 28	do	5.25	307
April 4	do	5.32	331
April 11	do	5.56	438
April 18	do	6.28	1,065
April 25	do	5.93	665
May 2	do	6.05	820
May 9	do	6.45	1,157
May 16	do	7.50	2,357
May 23	do	6.75	1,402
May 30	do	8.85	5,011
June 6	do	8.30	3,750
June 13	do	7.55	2,484
June 20	do	6.70	1,329
June 27	do	6.20	926
July 5	do	6.08	820
July 11	Prall and Reed	5.75	572
July 19	H. S. Reed	5.50	435
July 26	do	5.40	389
August 1	do	5.22	284
August 9	do	5.12	242
August 15	do	5.35	361
August 22	do	5.15	225
August 29	do	5.22	274
September 5	do	5.02	194
September 12	do	5.00	180
September 19	do	5.10	222
September 26	do	5.22	250
October 3	do	5.22	277
October 10	do	5.22	261
October 18	do	5.25	273
October 24	do	5.25	283
October 31	do	5.25	264
November 14	do	5.28	268
November 21	do	5.30	296
November 28	do	5.35	309

**MEAN DAILY GAGE HEIGHT,**  
**In Feet, of Duchesne River at Price Road Bridge, Utah, for 1902.**

Year.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
1	*	*	*	5.26	6.05	8.80	6.10	5.20	5.13	5.25	5.28	*
2				5.27	6.13	8.25	6.13	5.15	5.10	5.25	5.28	
3				5.29	6.18	7.90	6.13	5.18	5.10	5.25	5.28	
4				5.30	6.21	7.90	6.14	5.18	5.10	5.25	5.28	
5				5.33	6.22	8.05	6.09	5.15	5.10	5.25	5.28	
6				5.38	6.24	8.10	6.07	5.13	5.10	5.20	5.28	
7				5.39	6.25	8.15	6.03	5.13	5.08	5.20	5.28	
8				5.47	6.28	8.25	5.88	5.13	5.00	5.20	5.29	
9				5.53	6.48	8.43	5.80	5.10	5.00	5.20	5.28	
10				5.56	6.63	8.45	5.75	5.13	4.96	5.20	5.28	
11				5.19	5.58	6.80	7.85	5.75	5.15	4.90	5.20	5.30
12				5.20	5.60	7.04	7.60	5.73	5.18	5.00	5.20	5.30
13				5.23	5.63	7.35	7.45	5.70	5.20	5.02	5.20	5.30
14				5.21	5.70	7.33	7.38	5.68	5.45	5.05	5.20	5.30
15				5.25	5.78	7.48	7.35	5.65	5.33	5.05	5.20	5.30
16				5.27	5.85	7.50	7.10	5.65	5.25	5.08	5.20	5.30
17				5.27	5.93	7.60	6.90	5.64	5.18	5.10	5.25	5.30
18				5.26	6.30	7.63	6.75	5.60	5.18	5.10	5.25	5.30
19				5.27	6.46	7.40	6.65	5.60	5.18	5.10	5.25	5.30
20				5.28	6.61	7.25	6.68	5.50	5.18	5.10	5.25	5.32
21				5.21	6.50	7.00	6.57	5.50	5.18	5.38	5.25	5.32
22				5.21	6.21	6.83	6.55	5.50	5.15	5.39	5.28	5.32
23				5.22	5.95	6.70	6.53	5.46	5.15	5.33	5.29	5.32
24				5.22	5.90	6.65	6.50	5.42	5.15	5.35	5.30	5.32
25				5.23	5.93	6.55	6.40	5.40	5.15	5.28	5.30	5.32
26				5.24	6.00	6.80	6.31	5.40	5.15	5.25	5.28	5.32
27				5.25	6.01	7.50	6.20	5.35	5.15	5.25	5.28	5.32
28				5.25	6.08	7.88	6.10	5.38	5.18	5.25	5.28	5.32
29				5.26	5.90	8.53	8.18	5.28	5.20	5.25	5.28	5.32
30				5.24	6.05	8.80	6.14	5.25	5.20	5.25	5.28	5.32
31				5.27	9.20			5.23	5.17		5.28	

\*River frozen.

**RATING TABLE**  
**For Duchesne River at Price Road Bridge, Utah, for 1902.**

Gage height	Discharge	Gage height	Discharge	Gage height	Discharge	Gage height	Discharge
Feet	Sec.-feet	Feet	Sec.-feet	Feet	Sec.-feet	Feet	Sec.-feet
5.0	200	0.4	1,120	7.8	2,840	0.2	5,820
5.2	280	0.6	1,320	8.0	3,100	0.4	6,280
5.4	380	0.8	1,520	8.2	3,550	0.6	6,740
5.6	500	7.0	1,760	8.4	3,980	0.8	7,200
5.8	630	7.2	2,000	8.6	4,440	10.0	7,600
6.0	780	7.4	2,240	8.8	4,900	-----	-----
6.2	940	7.6	2,520	9.0	5,300	-----	-----

**ESTIMATED MONTHLY DISCHARGE  
OF Duchesne River at Price Road Bridge, Utah, for 1902.  
(Drainage area, 2,746 square miles.)**

Month	Discharge in Second-feet			Total in Acre-feet	Run-off	
	Maximum	Minimum	Mean		Sec.-feet per square mile	Depth in Inches
January*			280	17,217	.10	.12
February*			280	15,550	.10	.11
March*			291	17,875	.11	.13
April	1,360	304	656	39,035	.24	.27
May	5,820	820	1,069	121,069	.72	.83
June	4,900	692	2,239	133,235	.82	.91
July	892	292	555	34,138	.20	.23
August	410	240	273	16,804	.10	.12
September	374	184	258	15,364	.09	.10
October	320	280	297	18,288	.11	.13
November	332	312	322	19,162	.12	.13
December*			300	18,447	.11	.13
The year	5,820	184	644	466,174	.24	3.21

\*Jan. 1 to March 10 and Dec. 1-31 river frozen; quantities estimated.

The observations at this station during 1903 have been made under the direction of H. S. Reed, district hydrographer.

**DISCHARGE MEASUREMENTS  
Of Duchesne River near Myton, Utah, in 1903.**

Date.	Hydrographer.	Gage height.	Discharge	
			Feet.	Second-ft.
April 9	H. S. Reed	5.37		323
April 18	do	5.36		351
April 24	do	5.61		530
May 2	do	6.03		906
May 8	do	6.43		1,164
May 16	do	7.30		2,030
May 22	do	6.75		1,368
May 29	do	6.48		1,183
June 5	do	8.35		4,138
June 13	do	8.40		4,202
June 20	do	7.98		3,431
June 27	do	7.00		1,911
July 2	do	6.52		1,440
July 10	do	6.08		943
July 17	do	6.20		1,020
July 24	do	5.95		833

**DISCHARGE MEASUREMENTS**  
**Of Duchesne River near Myton, Utah, in 1903.—Continued.**

Date.	Hydrographer.	Gage	Discharge
		height. Feet.	
July 31	do	5.60	563
August 7	do	5.38	400
August 15	do	5.30	343
August 22	do	5.18	288
August 28	do	5.18	291
September 5	do	5.10	281
September 20	do	5.19	283
October 3	do	5.52	520
October 9	do	5.30	398
October 21	do	5.25	318
October 30	do	5.21	304
November 28	do	5.38	412

**MEAN DAILY GAGE HEIGHT,**  
**In Feet, of Duchesne River near Myton, Utah, for 1903.**

Day	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
1		5.88	7.15	6.62	5.66	5.12	5.01	5.20	5.47
2		6.04	7.48	6.50	5.52	5.10	5.67	5.20	5.45
3		6.14	8.42	6.42	5.60	5.10	5.65	5.20	5.39
4		6.11	8.36	6.36	5.48	5.10	5.41	5.23	5.31
5	5.40	6.15	8.38	6.31	5.45	5.10	5.87	5.19	5.27
6	5.36	6.23	8.34	6.25	5.41	5.01	5.35	5.18	—
7	5.30	6.30	8.36	6.23	5.33	5.15	5.31	5.19	—
8	5.35	6.40	8.51	6.21	5.30	5.31	5.31	5.20	—
9	5.36	6.40	8.70	6.16	5.20	5.28	5.35	5.20	—
10	5.40	6.48	8.60	6.09	5.28	5.25	5.45	5.10	—
11	5.41	6.51	8.42	6.01	5.28	5.20	5.31	5.18	—
12	5.41	6.55	8.42	5.96	5.28	5.20	5.30	5.16	—
13	5.35	6.71	8.35	5.91	5.28	5.21	5.31	5.21	—
14	5.30	6.67	8.45	5.90	5.20	5.25	5.32	5.31	—
15	5.30	7.21	8.26	5.85	5.30	5.20	5.31	5.30	—
16	5.31	7.36	8.05	5.85	5.28	5.20	5.29	5.27	—
17	5.31	7.47	8.07	6.34	5.25	5.25	5.28	5.20	—
18	5.33	7.17	8.05	0.05	5.21	5.23	5.28	5.20	—
19	5.32	6.06	7.97	5.01	5.20	5.21	5.28	5.24	—
20	5.31	6.85	7.87	5.81	5.10	5.20	5.27	5.34	—
21	5.34	6.78	7.80	5.80	5.10	5.18	5.26	5.42	—
22	5.30	6.73	7.70	5.81	5.10	5.17	5.26	5.40	—
23	5.45	6.04	7.61	0.01	5.45	5.15	5.20	5.40	—
24	5.00	6.55	7.32	5.05	5.30	5.11	5.20	5.38	—
25	5.87	6.60	7.12	5.07	5.24	5.10	5.26	5.38	—
26	5.00	6.49	7.02	5.00	5.10	5.10	5.24	5.31	—
27	6.04	6.48	6.07	0.10	5.18	5.10	5.22	5.30	—
28	6.15	6.50	6.02	5.86	5.17	5.11	5.21	5.30	—
29	6.05	6.49	6.80	5.70	5.16	5.21	5.20	5.28	—
30	5.95	6.50	6.72	5.69	5.16	5.45	5.20	5.30	—
31	6.71	—	—	5.61	5.13	—	5.20	—	—

RATING TABLE  
For Duchesne River near Myton, Utah, from April 1 to June 2, 1903.

Gage height	Discharge						
Feet.	Sec.-feet.	Feet.	Sec.-feet.	Feet.	Sec.-feet.	Feet.	Sec.-feet.
5.3	320	5.7	560	6.2	940	7.0	1,760
5.4	380	5.8	630	6.4	1,120	7.2	2,000
5.5	440	5.9	700	6.6	1,320	7.4	2,240
5.6	500	6.0	780	6.8	1,520	---	---

RATING TABLE  
For Duchesne River near Myton, Utah, from June 5 to December 31, 1903.

Gage height	Discharge						
						Feet	Sec.-feet
5.1	275	5.7	640	6.6	1,460	7.8	3,955
5.2	319	5.8	710	6.8	1,705	8.0	3,490
5.3	371	5.9	790	7.0	1,970	8.2	3,850
5.4	431	6.0	870	7.2	2,250	8.4	4,210
5.5	500	6.2	1,010	7.4	2,530	8.6	4,570
5.6	570	6.4	1,210	7.6	2,835	---	---

ESTIMATED MONTHLY DISCHARGE  
Of Duchesne River near Myton, Utah, for 1903.  
(Drainage area, 2,746 square miles.)

Month	Discharge in Second-feet			Total in Acre-feet	Run-off	
	Maximum	Minimum	Mean		Sec.-feet per square mile	Depth in inches
April 5-30			456	23,516	0.17	0.16
May	2,300	605	1,332	81,002	.40	.56
June (23 days)*			3,248	180,385	1.18	1.23
July	1,460	570	912	50,077	.33	.38
August	535	296	375	23,058	.14	.16
September	500	275	320	10,577	.12	.13
October	605	319	383	23,550	.14	.16
November	431	296	353	21,005	.13	.15
December 1-5			415	4,116	.15	.03
Totals	2,300	275	867	433,186	0.317	2.90

\*June 3 and 4 missing.

The observations at this station during 1904 have been made under the direction of H. S. Reed, resident hydrographer.

**DISCHARGE MEASUREMENTS**  
Of Duchesne River near Myton, Utah, in 1904.

Date.	Hydrographer.	Width	Area of Section	Mean velocity	Gage height	Dis- charge	Pt. per Sec.	Second- Feet
							Feet	
March 10	H. S. Reed	97	392	0.84	5.30	330		
June 20	do	108	786	4.78	8.20	3,756		
June 21	do	107	756	4.24	7.93	3,202		
July 1	do	105	638	2.63	6.90	1,685		
July 25	do	105	501	1.62	6.04	814		
August 31	do	103	521	1.39	5.82	724		
September 1	do	102	504	1.16	5.67	586		
September 25	do	97	466	.83	5.32	385		
September 25	do	97	468	.77	5.32	361		

MEAN DAILY GAGE HEIGHT,  
In Feet, of Duchesne River near Myton, Utah, for 1904.

Day.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
1		5.20	6.37	8.45	6.95	5.72	5.65	5.30	5.28	5.20
2		5.27	6.45	8.55	6.95	5.70	5.50	5.30	5.28	5.25
3		5.23	6.30	8.30	6.80	5.70	5.40	5.30	5.25	5.20
4		5.22	6.30	7.95	6.70	5.08	5.40	5.28	5.25	5.35
5		5.25	6.31	7.85	6.60	5.60	5.36	5.28	5.25	5.30
6		5.30	6.33	7.80	6.65	5.52	5.31	5.28	5.22	5.20
7		5.28	6.30	8.10	6.65	5.50	5.30	5.40	5.22	—
8		5.28	6.60	8.40	6.50	5.50	5.30	5.40	5.22	—
9		5.28	6.49	8.40	6.45	5.50	5.30	5.40	5.20	—
10		5.30	5.28	6.49	8.35	6.40	5.50	5.30	5.46	5.20
11		5.27	5.34	6.80	8.65	6.25	5.75	5.25	5.44	5.20
12		5.21	5.49	6.00	8.85	6.20	5.65	5.20	5.50	5.20
13		5.20	5.73	7.04	8.85	6.20	5.70	5.20	5.60	5.20
14		5.25	5.90	7.28	8.70	6.20	5.72	5.20	5.50	5.20
15		5.26	6.01	7.49	8.60	6.10	5.75	5.20	5.48	5.20
16		5.21	6.10	7.50	8.30	6.10	5.75	5.11	5.47	5.25
17		5.19	6.08	7.70	8.20	6.00	5.78	5.20	5.44	5.33
18		5.20	6.15	7.05	8.15	6.00	5.80	5.20	5.41	5.30
19		5.21	6.21	8.14	8.00	5.91	5.70	5.20	5.35	5.25
20		5.25	6.15	8.20	8.10	5.60	5.60	5.25	5.28	5.22
21		5.29	6.10	8.20	7.90	5.82	5.50	5.30	5.28	5.20
22		5.23	6.20	8.17	7.80	5.80	5.45	5.35	5.20	5.28
23		5.20	5.93	8.65	7.60	5.70	5.40	5.40	5.30	5.20
24		5.20	5.88	9.30	7.50	5.90	5.45	5.35	5.30	5.33
25		5.23	5.82	9.50	7.45	6.00	5.45	5.30	5.30	5.37
26		5.25	5.88	9.35	7.25	6.00	5.45	5.30	5.30	5.33
27		5.21	6.06	8.95	7.15	5.85	5.48	5.30	5.30	5.20
28		5.20	6.39	8.30	7.05	5.80	5.65	5.30	5.30	5.28
29		5.27	6.37	8.30	7.05	5.85	5.85	5.30	5.30	5.38
30		5.37	6.43	8.30	7.00	5.90	7.15	5.30	5.30	5.35
31		5.33	8.30	—	5.80	6.20	—	5.30	—	—

**RATING TABLE**  
For Duchesne River near Myton, Utah, from January 1 to December 31, 1901.

Gage height Feet	Dis-charge Second-feet						
5.10	264	6.00	840	7.20	2,150	8.40	4,070
5.15	288	6.10	920	7.30	2,290	8.50	4,250
5.20	313	6.20	1,005	7.40	2,430	8.60	4,430
5.25	339	6.30	1,100	7.50	2,575	8.70	4,610
5.30	366	6.40	1,200	7.60	2,725	8.80	4,790
5.35	394	6.50	1,305	7.70	2,880	8.90	4,970
5.40	423	6.60	1,415	7.80	3,040	9.00	5,150
5.45	453	6.70	1,530	7.90	3,205	9.10	5,330
5.50	484	6.80	1,650	8.00	3,375	9.20	5,510
5.60	518	6.90	1,770	8.10	3,545	9.30	5,700
5.70	615	7.00	1,890	8.20	3,715	9.40	5,890
5.80	685	7.10	2,020	8.30	3,890	9.50	6,080
5.90	760	-----	-----	-----	-----	-----	-----

The above table is applicable only for open-channel conditions. It is based upon 13 discharge measurements made during 1901. It is fairly well defined between gage heights 5.30 feet and 8.20 feet. The table has been extended above gage height 8.20 feet.

**ESTIMATED MONTHLY DISCHARGE**  
Of Duchesne River near Myton, Utah, for 1901.  
(Drainage area, 2,746 square miles.)

Month	Discharge in Second-feet			Total in Acre-feet	Run-off	
	Maximum	Minimum	Mean		Sec-feet per square mile	Depth in inches
March 10-31	406	308	335	14,020	0.122	0.100
April	1,230	323	691	41,120	.252	.281
May	6,080	1,100	2,856	175,600	1.04	1.20
June	4,880	1,800	3,454	205,500	1.26	1.41
July	1,830	615	1,031	63,300	.375	.432
August	2,085	423	623	38,310	.227	.262
September	581	269	369	21,930	.134	.150
October	484	355	401	24,000	.146	.168
November	411	313	346	20,500	.120	.141
The period	6,080	269	123	605,700	.400	4.14

MONTHLY DISCHARGE  
In Thousands of Acre Feet of Duchesne River near Myton, Utah.  
(Drainage area, 2,746 square miles.)

Year	January	February	March	April	May	June	July	August	September	October	November	December	Total	Sect.-Bt per sq. ft.	Depth in meters	Run-off	
													1890	1890	1890	1890	
1890	20.96	18.88	24.23	27.78	143.08	101.28	23.18	16.66	17.61	19.25	18.15	21.03	452.04	0.23	3.07		
1900	17.22	15.55	17.77	20.68	194.85	88.36	36.71	27.85	18.27	19.80	18.80	18.45	503.27	0.25	3.43		
1901	17.22	15.55	17.77	20.68	194.85	88.36	36.71	27.85	18.27	19.80	18.80	18.45	503.27	0.25	3.43		
1902	17.22	15.55	17.77	20.68	194.85	88.36	36.71	27.85	18.27	19.80	18.80	18.45	503.27	0.25	3.43		
1903	17.22	15.55	17.77	20.68	194.85	88.36	36.71	27.85	18.27	19.80	18.80	18.45	503.27	0.25	3.43		
1904	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
Mean	18.47	16.66	20.45	23.22	143.30	141.75	42.70	24.54	18.55	21.72	20.23	18.82	521.41	0.24	3.44		

PRECIPITATION.  
At Fort Duchesne in Drainage Basin of Duchesne River.

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Annual
1889	0.35	0.18	0.32	0.68	0.73	0.15	0.49	0.56	0.34	0.66	0.06	1.77	5.28
1890	1.01	2.05	0.02	0.21	0.00	0.00	1.35	0.85	0.32	1.17	0.53	0.27	7.26
1891	0.22	0.28	0.57	0.90	0.96	0.34	0.24	0.74	0.46	0.00	0.00	1.06	7.54
1892	0.40	0.30	0.78	1.24	1.35	0.03	0.10	0.08	0.00	0.46	0.14	0.46	5.40
1893	0.42	0.44	3.10	2.01	0.92	0.90	0.47	0.57	0.36	0.16	0.24	0.40	9.18
1894	0.08	0.10	0.36	0.00	0.20	0.34	0.26	0.30	0.88	0.34	0.00	0.69	4.84
1895	0.09	0.03	0.00	0.00	1.53	1.32	0.17	0.20	0.03	0.13	0.50	0.31	4.50
1896	0.00	0.09	0.14	0.21	1.40	0.03	0.45	0.64	2.23	0.54	0.20	0.00	6.90
1897	0.57	0.90	0.28	0.01	0.16	0.92	0.17	0.21	4.61	3.00	0.00	1.20	11.43
1898	0.60	0.10	0.75	0.17	0.61	0.45	0.06	0.66	0.08	0.05	0.13	0.10	4.36
1899	0.20	0.40	2.10	0.60	0.00	0.05	0.71	0.90	0.00	0.89	0.77	0.12	6.08
1900	0.35	0.00	0.00	1.72	0.15	0.06	0.03	0.40	1.25	0.27	0.51	0.30	3.04
1901	0.25	0.05	0.15	0.20	0.60	0.05	0.14	2.47	0.03	0.64	0.16	0.51	6.18
1902	0.70	0.05	0.14	0.70	0.30	0.50	0.05	0.00	1.45	0.00	0.00	0.00	4.80
1903	0.00	0.80	0.06	0.00	1.02	0.28	1.49	0.20	1.20	0.48	0.00	0.00	5.55
1904	0.45	0.01	0.10	0.25	2.78	0.70	0.30	0.66	0.32	0.44	0.00	0.07	7.11
1905	0.50	0.60	1.55	0.69	0.89	0.10	0.00	0.06	5.92	0.28	1.25	0.20	12.13
1906	0.35	0.30	1.10	0.37	1.10	0.10	0.30	1.50	1.45	0.38	1.83	0.60	9.17
Mean --	0.48	0.43	0.71	0.56	0.82	0.24	0.47	0.50	1.25	0.56	0.35	0.42	7.27

**LIST OF MISCELLANEOUS DISCHARGE MEASUREMENTS**  
Made in Duquesne River Drainage Basin.

Date	Stream	Locality	Gage height	Discharge
1900			Feet	Sec.-ft.
September 15	Duquesne-----	{ Above mouth of } Strawberry River-----	2.10	216
September 15	Duquesne-----	{ Above mouth of } Strawberry River-----	2.14	232
October 5	Strawberry-----	Junction with Indian Creek	---	\$4
October 5	Strawberry-----	Junction with Indian Creek	1.20	92

**LIST OF MISCELLANEOUS DISCHARGE MEASUREMENTS**  
Made in Lake Fork and Tributaries Drainage Basin.

Date	Stream	Location	Gage height	Discharge
1900			Feet	Sec.-ft.
August 6	West Fork-----	Above mouth-----	1.40	93
August 6	East Fork-----	Above mouth-----	2.10	112
August 6	Lake Creek-----	One-half mile below Junction	2.67	290
August 14	West Fork-----	Above mouth-----	1.22	60
August 14	East Fork-----	Above mouth-----	1.94	87
August 14	Lake Creek-----	One-half mile below Junction	2.40	102

**LIST OF MISCELLANEOUS DISCHARGE MEASUREMENTS**  
Made in Vernal Valley, Utah.

Date	Stream	Locality	Gage height	Discharge
			Feet	Sec.-ft.
May 28	Ashley Creek-----	Gaging Station-----	---	776
May 29	Upper Ashley-----	-----	---	---
May 29	Canal-----	Measuring Weir-----	---	181
May 29	Central Canal-----	Measuring Weir-----	---	138
May 29	Rock Point Canal-----	Near Head-----	---	25
May 29	Steinacker Canal-----	Near Head-----	---	1.5
August 21	Ashley Creek-----	Gaging Station-----	---	40
August 21	Upper Ashley-----	-----	---	---
	Canal-----	Measuring Weir-----	---	12.0
August 21	Central Canal-----	Measuring Weir-----	---	10.0
August 21	Rock Point Canal-----	Measuring Weir-----	---	6.8

### Uinta River near Whiterocks, Utah.

This station was established September 16, 1899, by C. C. Babb. It is located at the point where the river emerges from its canyon, about 10 miles northwest of the Indian agency at Whiterocks, Utah. The station is on the road to the Government sawmill, and is three-fourths of a mile above the bridge. It is 600 feet below the mouth of Pole Creek. The gage is an inclined 2 by 4-inch timber, 12 feet long, bolted to two trees on the left bank. Discharge measurements are made at flood stages by means of a cable and car. At ordinary stages they are made by wading. The initial point for soundings is the first tag on the barbed wire from the left cable support. The channel is straight for 600 feet above and below the station. The current is swift, and at high stages difficulty is experienced in keeping the meter in position on account of the high velocity and rough bed. The right bank is high and rocky, with a few trees. It probably will not overflow. The left bank is lower than the right, is covered in places with a growth of willows, and will overflow at flood stages. The bed of the stream is rough and rocky and is covered with large boulders. There are two channels at all stages. The bench mark is a nail on an aspen tree 125 feet north of the gage. Its elevation is 8.93 feet above the zero of the gage.

DISCHARGE MEASUREMENTS  
Of Uinta River at Whiterocks for 1899.

Date	Hydrographer	Gage height	Discharge
		Feet	Sec. feet
September 16.....	C. C. Babb.....	1.05	191
September 28.....	and.....	1.00	142
October 6.....	C. T. Prall.....	1.00	150
October 18.....		1.10	165
November 2.....		1.00	141
November 25.....		1.00	119
December 4.....		1.00	136
December 11.....		.97	136
December 18.....		1.00	124
December 28.....		*	86

\*Ice.

**ESTIMATED MONTHLY DISCHARGE  
Of Uinta River in Canyon near Whiterocks, Utah, for 1890.  
(Drainage area, 218 square miles.)**

Month	Discharge in Second-feet			Total In Acre-feet	Run-off	
	Maximum	Minimum	Mean		Sec.-feet per square mile	Depth In Inches
September			165	9,818	.73	.81
October			162	9,961	.72	.83
November			130	7,736	.58	.61
December			120	7,379	.53	.61

**DISCHARGE MEASUREMENTS  
Of Uinta River near Whiterocks, Utah, for 1900.**

Date	Hydrographer	Gage height	Dis- charge
		Feet	Sec.-feet
January 3		*1.05	114
January 8		* .90	105
January 16		* .92	113
January 22		*1.00	116
January 30		*1.05	114
February 5		* .90	112
February 12		* .83	106
February 19		*1.02	117
February 26		.81	115
March 5		.85	121
March 12		.89	130
March 19		.80	120
March 26		.87	130
April 9		.92	144
April 16		.86	132
May 22		2.30	1102
June 1		2.20	1059
June 8		1.81	691
June 15		1.60	477
June 22		1.50	418
June 29		1.33	341
July 7		1.20	250
July 12		1.10	224
July 20		1.04	196
August 9		1.05	182
August 21		1.02	180
September 4		1.01	105
September 17		.96	150
October 9		1.00	103
October 20		.95	145
November 5		.90	128
November 10		.90	136
November 20		.95	150
December 3		1.05	170
December 11		*1.00	134
December 17		*1.00	143
December 24		* .95	133

Icc.

**ESTIMATED MONTHLY DISCHARGE**  
**Of Uinta River near Whiterocks, Utah, for 1900.**  
**(Drainage area, 218 square miles.)**

Month	Discharge in Second-feet			Total in Acre-feet	Run-off	
	Maximum	Minimum	Mean		Sec.-feet per square mile	Depth in inches
January			112	6,887	0.51	0.59
February			112	6,220	.51	.25
March			125	7,686	.57	.66
April			138	8,212	.63	.70
May			650	39,967	2.98	3.44
June			597	35,524	2.74	3.06
July			223	13,712	1.02	1.18
August			184	11,314	.84	.97
September			157	9,342	.72	.80
October			154	9,469	.71	.82
November			138	8,212	.63	.70
December			145	8,016	.67	.77
The year			228	165,461	1.01	14.22

**DISCHARGE MEASUREMENTS**  
**Of Uinta River, near Whiterocks, Utah, for 1901.**

Date	Hydrographer	Gage height	Dis- charge
		Feet	Sec.-feet
April 8	C. T. Prall	0.88	110
April 15	et al.	1.00	142
April 22		1.03	153
April 29		1.10	186
May 7		1.28	251
May 14		2.06	634
May 31		1.72	496
June 6		1.50	308
June 15		1.40	278
June 26		1.35	250
July 1		1.40	255
July 8		1.30	275
July 15		1.18	242
July 22		1.12	222
July 29		1.10	253
August 5		1.12	220
August 12		1.12	226
August 19		1.50	464

**DISCHARGE MEASUREMENTS**  
**Of Uinta River, near Whiterocks, Utah, for 1901.--Continued.**

Date.	Hydrographer.	Gage height. Feet.	Discharge
		Second ft.	
August 26		1.20	261
September 2		1.20	263
September 9		1.08	210
September 16		1.00	178
September 23		0.97	169
September 30		0.95	170
October 7		0.97	179
October 14		.90	165
October 21		.90	168
October 28		.97	185
November 4		.90	164
November 18		.80	144
November 25		.80	144
December 2		.83	153
December 9		*1.30	185
December 17		*	189
December 23		*1.10	137
December 30		*.95	122

\*Ice.

**ESTIMATED MONTHLY DISCHARGE**  
**Of Uinta River near Whiterocks, Utah, for 1901.**  
 (Drainage area 218 square miles.)

Month	Discharge in Second-feet			Total in Acre-feet	Run-off	
	Maximum	Minimum	Mean		Sec.-feet per square mile	Depth in inches
January			140	8,608	0.61	0.74
February			140	7,775	.61	.67
March			150	9,223	.69	.80
April			170	10,651	.82	.92
May			684	42,058	3.14	3.02
June			355	21,124	1.63	1.82
July			251	15,433	1.15	1.33
August			212	14,880	1.11	1.28
September			103	11,481	.89	.99
October			103	10,022	.75	.86
November			142	8,450	.65	.73
December			147	9,039	.67	.77
The year			232	168,747	1.07	14.53

**DISCHARGE MEASUREMENTS**  
Of Uinta River near Whiterocks, Utah, for 1902.

Date	Hydrographer	Gage height	Dis-charge
		Feet	Sec.-feet
January 6	C. T. Prall	0.90	126
January 13	do	.85	144
February 10	do	.90	128
February 17	do	.65	124
February 24	do	.65	123
March 3	do	1.00	160
March 10	do	.75	123
March 17	do	.85	152
March 24	do	.75	126
March 31	do	.90	178
April 7	do	.80	144
April 14	do	.76	129
April 21	do	.92	170
April 28	do	.82	148
May 5	do	.92	179
May 12	do	1.70	538
May 19	do	1.60	507
May 26	do	1.73	536
June 3	do	2.00	790
June 9	do	2.13	920
June 16	do	1.75	622
June 23	do	1.55	431
June 30	do	1.45	379
July 7	do	1.30	303
July 14	C. T. Prall and H. S. Reed	1.20	251
July 21	H. S. Reed	1.10	217
July 28	do	1.10	195
August 4	do	1.05	182
August 11	do	1.05	191
August 18	do	1.00	177
August 25	do	.97	167
September 1	do	1.00	171
September 8	do	.95	160
September 15	do	.93	160
September 22	do	1.00	177
September 29	do	.95	168
October 6	do	.93	161
October 20	do	.93	149
October 27	do	.90	142
November 3	do	.90	139
Do	do	.00	132
November 10	do	.90	137
November 17	do	.93	140
November 24	do	.00	147
December 1	do	1.07	124
December 17	do	1.28	.02
December 23	do	.85	109
December 30	do	1.60	.68

**DAILY GAGE HEIGHT,**  
**In Feet, of Uinta River, near Whiterocks, Utah, for 1902.**

Day	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
1									1.00			1.07
2						2.00					0.90	
3			1.00						1.05			
4					0.92							
5										0.93		
6		0.90										
7				0.80			1.30			.95		
8						2.13						
9											.90	
10		0.90	.75					1.05				
11					1.70							
12												
13		.85			.76		1.20					
14						1.75				.93		
15												
16			.65	.85							.03	1.28
17												
18					1.60			1.00				
19										.93		
20					.92		1.10					
21								1.00				
22						1.55						.85
23			.65	.75							.90	
24						1.73						
25												
26										.90		
27												
28					.82		1.10			.95		
29							1.45					
30												1.50
31					.00							

**ESTIMATED MONTHLY DISCHARGE**  
**Of Uinta River near Whiterocks, Utah, for 1902.\***  
**(Drainage area, 218 square miles.)**

Month	Discharge in Second-feet			Total in Acre-feet	Run-off	
	Maximum	Minimum	Mean		Sec.-feet per square mile	Depth in Inches
January	144	123	136	8,360	0.62	0.71
February	143	123	127	7,083	.58	.60
March	178	123	144	8,837	.66	.76
April	185	129	154	9,164	.71	.79
May	1,200	160	555	34,114	2.55	2.94
June	1,000	379	665	39,579	3.05	3.40
July	430	190	262	16,132	1.20	1.38
August	200	167	181	11,144	.83	.96
September	177	160	167	9,923	.77	.86
October	166	140	152	9,364	.70	.81
November	147	125	139	8,269	.64	.71
December			125	7,686	.57	.66
The year	1,200	123	285	109,655	1.07	14.58

\*Daily discharges were obtained from the discharge measurements by interpolation.

**DISCHARGE MEASUREMENTS**  
**Of Uinta River near Whiterocks, Utah, in 1903.**

Date	Hydrographer	Gage height	Dis-
			charge
January 6	H. S. Reed	*1.03	*103
January 21	do	†	71
January 27	do	†	82
February 2	do	†	104
February 10	do	†	81
March 9	do	†	113
March 16	do	.75	111
March 30	do	.05	165
April 6	do	.80	134
April 14	do	.85	125
April 20	do	.85	140
April 27	do	1.05	186
May 4	do	1.08	194
May 18	do	1.78	518

**DISCHARGE MEASUREMENTS  
Of Hinta River near Whiterocks, Utah, in 1903.—Continued.**

Date.	Hydrographer.	Gage height.	Discharge
		Feet.	Second-ft.
May 25	do	1.35	301
June 2	do	2.70	1,255
June 11	do	2.45	1,087
June 16	do	2.20	859
June 23	do	2.00	733
July 6	do	1.55	433
July 20	do	1.47	349
August 12	do	1.15	201
August 18	do	1.10	232
September 8	do	1.20	240
September 15	do	1.13	220
September 29	do	1.07	182
October 14	do	1.05	189
October 26	do	1.00	162
December 1	do	.95	144

\*Oage height inappropriate on account of ice.

\*No record; see

MEAN DAILY GAGE HEIGHT,  
in Feet, of Uinta River near Whiterocks, Utah, for 1903.

**ESTIMATED MONTHLY DISCHARGE**  
**Of Uinta River near Whiterocks, Utah, for 1903.\***  
**(Drainage area, 218 square miles.)**

Month	Discharge in Second-feet			Total in Acre-feet	Run-off	
	Maximum	Minimum	Mean		Sec.-feet per square mile	Depth in inches
January	103	71	86	5,288	0.39	0.45
February	104	81	95	5,276	.44	.46
March	165	97	122	7,501	.56	.65
April	190	125	148	8,807	.68	.76
May	778	190	430	26,440	1.07	2.27
June	1,255	583	894	53,197	4.10	4.57
July	583	277	382	23,488	1.75	2.02
August	276	178	232	14,265	1.06	1.22
September	210	182	209	12,436	.96	1.07
October	189	153	176	10,822	.81	.93
November	153	153	153	9,104	.70	.78
December	145	144	145	8,916	.67	.77
The year	1,255	71	256	185,510	1.17	15.95

\*Gage heights were taken at this station only when discharge measurements were taken, and daily discharges were obtained from the discharge measurements by interpolation; therefore the above data is approximate to that extent.

The observations at this station during 1904 have been made under the direction of H. S. Reed, resident hydrographer.

**DISCHARGE MEASUREMENTS**  
**Of Uinta River near Whiterocks, Utah, in 1904.**

Date	Hydrographer	Gage height	Area of section	Mean velocity	Discharge			
					Feet	Square foot	Ft. per second	Second-feet
March 15	H. S. Reed	0.80	40	2.28				105
March 15*	do	0.80	43	2.40				103
April 23	do	.95	49	2.40				122
May 27	do	2.12	113	5.77				652
May 27*	do	2.12	123	6.14				755
June 18	do	1.85	106	4.82				511
June 18*	do	1.85	111	5.35				594
August 20	do	1.25	60	3.05				233

MONTHLY DISCHARGE  
In Thousands of Acre Feet of Uinta River near Whiterocks, Utah.  
(Drainage area, 218 square miles.)

Year	Run-off										
	January	February	March	April	May	June	July	August	September	October	November
1899	6.22	7.60	8.21	39.97	35.52	13.71	11.31	9.82	0.96	7.74	7.38
1900	6.50	9.22	10.65	42.06	21.12	15.43	11.48	9.47	8.21	8.92	165.46
1901	8.61	7.78	9.16	34.11	33.58	16.13	11.14	9.92	10.02	8.45	9.04
1902	8.36	7.08	8.54	26.44	23.20	14.27	12.44	10.82	9.36	8.27	7.69
1903	5.29	7.50	8.81	37.60	37.60	17.19	12.90	12.60	0.93	8.35	8.39
Mean	7.20	6.50	8.31	39.21	35.55	13.71	11.31	9.82	0.96	7.74	7.38

**Whiterocks River near Whiterocks, Utah.**

This station was established September 15, 1899, by C. C. Babb. It is located at the mouth of the canyon at the foot of the "dug way" leading to the river bottom from the plateau above. It is 10 miles above the Indian agency of Whiterocks, which is the nearest settlement. The gage is an inclined 2 by 4 inch timber, 12 feet long, bolted to the triple trunk of a tree on the left bank 200 feet below the gaging section. Discharge measurements are made at high stages by means of a cable and car located 200 feet above the gage rod. At ordinary stages measurements are made by wading. The initial point for soundings is the tree to which the cable is fastened on the right bank. The channel is straight for 150 feet above and for 300 feet below the cable. The current is swift. Both banks are of medium height and are covered with a thick growth of trees and underbrush. The bed of the stream is rough and rocky and is covered with large boulders. The bed is permanent, but it is hard to get accurate soundings on account of its roughness. The bench mark is a nail in a burnt aspen tree 50 feet east of the gage. Its elevation is 10.12 feet above the zero of the gage.

**DISCHARGE MEASUREMENTS**  
Of Whiterocks River, near Whiterocks, Utah, in 1890.

Date.	Hydrographer.	Gage height.	Discharge.
		Feet.	Second-feet.
September 15	C. C. Babb and C. T. Prall.		93
September 29	do	1.00	58
October 7	do	1.00	75
October 17	do	1.10	85
November 1	do	1.00	65
November 27	do	1.05	66
December 5	do	1.10	71
December 12	do	.95	59
December 19	do	.95	56
December 20	do	*	66

\*Ice.

**ESTIMATED MONTHLY DISCHARGE**  
Of Whiterocks River, in Canyon, near Whiterocks, Utah, for 1890.  
(Drainage area, 114 square miles.)

Month.	Discharge in Second-Feet.			Total in Acre-Feet.	Run-Off.	
	Maximum	Minimum	Mean.		Sec.-ft. per Sq. mile.	Depth in Inches.
September			86	5,117	.070	.81
October			80	4,019	.70	.81
November			66	3,927	.68	.64
December			63	3,874	.55	.63

**DISCHARGE MEASUREMENTS**  
**Of Whiterocks River, near Whiterocks, Utah, in 1900.**

Date.	Hydrographer.	Gage height.	Discharge.
		Feet.	Second-feet.
January 4		*0.95	50
January 9		* .95	46
January 17		* .93	46
January 23		* .90	49
January 31		* .90	44
February 13		*1.00	46
February 20		* .96	44
February 27		1.00	53
March 6		1.00	59
March 13		.80	49
March 20		.82	47
March 27		.88	45
April 10		.86	41
April 17		.92	47
May 23		2.80	730
June 2		2.20	488
June 7		1.80	200
June 16		1.60	194
June 23		1.52	166
June 30		1.33	125
July 6		1.22	98
July 13		1.16	79
July 21		1.10	69
August 10		1.10	58
September 5		1.10	59
September 18		1.04	52
October 10		1.05	65
October 30		.88	40
November 6		.95	61
November 20		.95	57

\*Ice.

**ESTIMATED MONTHLY DISCHARGE**  
**Of Whiterocks River, near Whiterocks, Utah, for 1900.**  
 (Drainage area, 114 square miles.)

Month.	Discharge in Second-Feet.			Total in Acre-Feet.	Run-Off,	
	Maximum	Minimum	Mean.		Sec.-ft. per Sq. mile.	Depth in Inches.
January			47	2,800	.41	.47
February			48	2,600	.42	.44
March			50	3,074	.44	.51
April			44	2,018	.30	.44
May			400	24,505	3.51	4.05
June			253	15,055	2.22	2.48
July			82	5,012	.72	.83
August			62	3,812	.54	.62
September			66	3,273	.48	.51
October			44	2,705	.39	.45
November			50	3,511	.52	.58
December			55	3,882	.48	.55
The year			100	72,623	0.88	11.00

**DISCHARGE MEASUREMENTS**  
Of Whiterocks River, near Whiterocks, Utah, in 1901.

Date.	Hydrographer.	Gage height. Feet.	Discharge. Second-feet
April 9	C. T. Prall et al.	0.80	40
April 23	do	1.05	72
April 30	do	1.30	139
May 6	do	1.40	162
May 15	do	2.55	617
June 1	do	1.57	279
June 7	do	1.60	197
June 16	do	1.40	150
June 27	do	1.25	121
July 2	do	1.20	93
July 9	do	1.17	104
July 16	do	1.10	85
July 23	do	1.05	81
July 30	do	1.18	112
August 6	do	1.22	128
August 13	do	1.15	108
August 20	do	1.55	204
August 27	do	1.25	130
September 3	do	1.22	126
September 10	do	1.10	96
September 17	do	1.05	83
September 24	do	1.05	83
October 1	do	1.00	78
October 8	do	1.00	82
October 15	do	0.95	72
October 22	do	.90	68
October 29	do	1.00	82
November 5	do	.90	67
November 12	do	.80	55
November 19	do	.92	66
November 26	do	.88	66
December 3	do	.85	62
December 10	do	1.60	50
December 31	do	1.10	54

**ESTIMATED MONTHLY DISCHARGE  
Of Whiterocks River, near Whiterocks, Utah, for 1901.**

Month.	Discharge in Second-Feet.			Total in Acre-Feet.	Run-Off.	
	Maximum	Minimum	Mean.		Sec.-ft. per Sq. mile.	Depth in Inches.
January -----			50	3,074	.44	.51
February -----			50	2,777	.44	.46
March -----			50	3,074	.44	.51
April -----			74	4,403	.65	.73
May -----			507	31,174	4.45	5.13
June -----			179	10,631	1.57	1.75
July -----			101	6,210	.89	1.03
August -----			128	7,870	1.12	1.20
September -----			95	5,653	.83	.93
October -----			75	4,612	.66	.76
November -----			63	3,749	.55	.61
December -----			61	3,751	.54	.62
The year -----			119	80,998	1.05	14.33

**DISCHARGE MEASUREMENTS**  
Of Whiterocks River, near Whiterocks, Utah, in 1902.

Date.	Hydrographer.	Gage height. Feet.	Discharge. Second-feet.
January 7	C. T. Prall	.80	52
January 14	do	.90	48
February 11	do	.70	39
February 18	do	.75	40
February 25	do	.70	47
March 4	do	1.10	44
March 11	do	.70	47
March 18	do	.70	47
April 1	do	.78	56
April 8	do	.78	54
April 15	do	.72	46
April 22	do	.86	66
April 29	do	.88	66
May 6	do	1.12	101
May 13	do	2.10	420
May 20	do	1.75	203
May 27	do	2.75	851
June 4	do	2.20	490
June 10	do	2.00	425
June 17	do	1.70	276
June 24	do	1.40	169
July 1	do	1.40	166
July 8	do	1.23	133
July 15	Prall and Reed	1.05	91
July 22	H. S. Reed	1.03	77
July 29	do	1.00	78
August 5	do	.97	68
August 12	do	1.00	70
August 18	do	.95	64
August 26	do	.90	63
September 2	do	.93	61
September 9	do	.87	49
September 16	do	.90	51
September 23	do	1.00	67
September 30	do	.90	59
October 7	do	.87	56
October 21	do	.85	51
October 28	do	.83	47
November 4	do	.80	46
November 11	H. S. Reed	0.95	63
November 18	do	.90	48
November 25	do	.78	38
December 2	do	2.15	41
December 18	do	1.92	52
December 24	do	.85	40
December 31	do	.85	39

**DAILY GAGE HEIGHT**

**ESTIMATED MONTHLY DISCHARGE  
OF Whiterocks River, near Whiterocks, Utah, in 1902.\*  
(Drainage area, 114 square miles.)**

Month.	Discharge in Second-Feet.			Total in Acre Feet.	Run-Off.	
	Maximum	Minimum	Mean.		Sec.-ft. per Sq. mile.	Depth in Inches.
January -----	54	41	48	2,924	.042	.018
February -----	47	39	41	2,297	.36	.37
March -----	55	44	48	2,955	.42	.48
April -----	71	46	57	3,416	.50	.56
May -----	1,100	76	471	28,947	4.13	4.77
June -----	900	166	348	20,704	3.05	3.40
July -----	200	77	109	6,684	.96	1.11
August -----	76	62	67	4,094	.59	.65
September -----	67	49	57	3,410	.50	.56
October -----	59	47	53	3,255	.46	.53
November -----	63	38	48	2,830	.42	.47
December -----	52	39	44	2,705	.39	.45
The year -----	1,100	38	116	81,221	1.02	13.86

\*Daily discharges were obtained from the discharge measurements by interpolation.

**DISCHARGE MEASUREMENTS  
Of Whiterocks River, near Whiterocks, Utah, in 1903.**

Date.	Hydrographer.	Gage height. Feet.	Discharge. Second-feet.
January 7-----	H. S. Reed-----	.80	33
January 22-----	do-----	1.65	29
January 28-----	do-----	.75	39
February 3-----	do-----	.75	41
February 11-----	do-----	.70	37
March 31-----	do-----	.80	48
April 7-----	do-----	.75	46
April 15-----	do-----	.80	49
April 21-----	do-----	.80	52
April 28-----	do-----	1.00	82
May 5-----	do-----	1.25	110
May 19-----	do-----	1.78	276
May 26-----	do-----	1.60	169
June 3-----	do-----	2.05	1,140
June 12-----	do-----	2.50	783
June 17-----	do-----	2.30	633
June 24-----	do-----	1.85	368
July 7-----	do-----	1.75	280
July 21-----	H. S. Reed-----	1.30	134
August 13-----	do-----	1.00	82
August 19-----	do-----	1.00	90
September 1-----	do-----	.95	76
September 9-----	do-----	1.05	105
September 16-----	do-----	1.00	93
September 30-----	do-----	.95	77
October 15-----	do-----	.90	70
October 27-----	do-----	.85	74
December 2-----	do-----	.85	61

**MEAN DAILY GAGE HEIGHT**  
 In feet, of Whiterocks River, near Whiterocks, Utah, for 1903.

Day.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
1.									.005			
2.												
3.		0.75				2.95						0.85
5.					1.25							
6.							1.75					
7.	0.80				0.75							
9.									1.05			
11.		.70										
12.						2.50						
13.								1.00				
15.					.80							
16.									1.00		0.95	
17.						2.30						
19.					1.78			1.00				
21.							1.30					
22.	1.65											
24.						1.85						
26.						1.50						
27.										.00		
28.	.75				1.00							
30.									.95			
31.					0.80							

**ESTIMATED MONTHLY DISCHARGE**  
 Of Whiterocks River, near Whiterocks, Utah, for 1903\*.  
 (Drainage area, 114 square miles.)

Month.	Discharge in Second-Feet.			Total in Acre Feet.	Run-Off.	
	Maximum	Minimum.	Mean.		Sec.-ft. per Sq. mile.	Depth in Inches.
January	40	29	34	2,001	0.30	0.35
February	42	37	41	2,277	.36	.37
March	48	42	43	2,644	.38	.44
April	96	46	56	3,332	.40	.55
May	655	66	200	15,087	2.28	2.03
June	1,146	324	658	30,151	5.77	0.44
July	824	108	108	12,175	1.74	2.01
August	108	82	93	5,718	.82	.95
September	105	76	89	5,296	.78	.87
October	70	68	76	4,673	.67	.77
November	68	67	67	3,087	.59	.66
December†	67	60	60	3,680	.53	.61
The year	1,146	20	140	101,023	1.23	16.65

\*Gage heights were taken at this station only when discharge measurements were taken, and daily discharges were obtained from the discharge measurements by interpolation; therefore the above data are approximate to that extent.

†Discharge for December estimated.

The observations at this station during 1904 have been made under the direction of H. S. Reed, resident hydrographer.

**DISCHARGE MEASUREMENTS**  
Of Whiterocks River, near Whiterocks, Utah, in 1904.

Date.	Hydrographer.	Area of section.	Mean velocity.	Gage height.	Discharge.
		Square ft.	Ft. per sec.	Feet.	Second-ft.
March 16	H. S. Reed	28.0	1.32	0.65	37
April 21	do	28.0	1.57	.70	44
May 28	do	87.0	5.07	2.00	441
June 19	do	71.0	3.61	1.05	256
August 30	do	45.0	2.02	1.10	118

\*Gage heights at this station are only observed when visits are made by the hydrographer, so daily discharge measurements will have to be obtained by interpolation.

**MONTHLY DISCHARGE**  
 In thousands of acre-feet of White-rocks River, near Whiterocks, Utah  
 (Drainage area, 114 square miles.)

Year.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Total.	Run-Off		
														Sec. Ft. per Sq. Mi.	Depth in Inches.	
1899	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
1900	2.89	2.67	3.07	2.62	24.60	15.06	—	—	5.12	4.92	3.93	3.87	—	—	—	—
1901	3.07	2.78	3.07	4.40	31.17	10.65	6.21	7.87	5.65	4.61	3.51	3.38	72.02	0.88	11.96	—
1902	2.92	2.30	2.96	3.42	28.95	20.70	6.68	4.09	3.41	3.26	2.83	2.71	57.00	1.05	14.33	—
1903	2.09	2.28	2.64	3.33	15.90	33.15	12.18	5.72	5.30	4.67	3.99	3.70	84.22	1.02	13.86	—
Mean	2.74	2.51	2.94	3.44	25.18	21.39	7.53	4.37	4.55	4.03	3.60	3.48	82.22	1.05	14.20	—

### Uinta River at Fort Duchesne, Utah.

This station was established September 14, 1899, by C. C. Babb. It is located at the highway bridge at the military post. The gage is a vertical rod 2 by 4 inches, 10 feet long, nailed to the old bridge abutment on the right bank 15 feet north of the bridge. This new rod was established April 19, 1904. It is read twice each day by Fred. Hoeft. Discharge measurements are made at high water from the bridge, and at ordinary stages by wading at a point 200 feet below. When measurements are made from the bridge the initial point for soundings is a zero marked on the west end of the bridge stringer on the downstream side. At the wading section the initial point is the first tag on the wire on the right bank. A tagged wire is stretched just below the bridge. The channel is curved both above and below the station, and makes a half circle at the gaging section. The current is sluggish near the left bank, but is swift near the right bank. Both banks are low and subject to over flow. The right bank is covered with a heavy undergrowth. The bed of the stream is rocky, though at times the section is filled in with sediment brought down by Deep Creek during floods. Bench mark No. 1 is the head of a nut in the extreme southwest end of the upper stringer of the bridge. Its elevation above gage datum is 8.91 feet, and 4,994.00 feet above sea level, Evanston datum. Bench mark No. 2 is a large nail below a line of nails driven into a scarp cut into a large cottonwood tree situated on the left bank about 300 feet from the east end of the bridge. Its elevation above gage datum is 9.90 feet, and 4,994.99 feet above sea level, Evanston datum.

**DISCHARGE MEASUREMENTS**  
**Of Uinta River, at Ft. Duchesne, Utah, in 1899.**

Date.	Hydrographer.	Gage height.	Discharge.
		Feet.	Second-feet.
September 14	C. C. Babb and C. T. Prall		86
September 26	do	2.30	71
October 27	do	2.40	83
November 3	do	2.50	102
November 18	do	2.57	120
December 1	do	2.55	120
December 8	do	2.43	112
December 13	do	2.40	107
December 21	do	2.35	102
December 27	do	2.50	131

**ESTIMATED MONTHLY DISCHARGE**  
**Of Uinta River, at Ft. Duchesne, Utah, for 1899.**  
 (Drainage area, 672 square miles.)

Month.	Discharge in Second-Feet.			Total in Acre Feet.	Sec.-ft. per Sq. mile.	Run-Off.
	Maximum	Minimum.	Mean.			
September			78	4,641	.011	.12
October			83	5,013	.12	.14
November			111	6,005	.16	.18
December			114	7,010	.17	.20

**DISCHARGE MEASUREMENTS**  
Of Uinta River near Ft. Duchesne, Utah, in 1900.

Date.	Hydrographer.	Gage height.	Discharge.
			Feet. Second-feet.
January 5		*2.56	129
January 11		*2.50	118
January 19		*2.60	132
January 25		*2.55	123
February 2		*2.55	119
February 10		*2.60	101
February 15		*2.55	115
February 22		2.67	143
March 2		2.77	140
March 8		2.85	173
March 14		2.91	137
March 21		2.42	84
March 28		2.37	62
April 12		2.43	76
April 18		2.39	72
April 27		2.41	72
May 3		2.48	90
May 14		3.17	376
May 16		3.69	708
May 18		3.98	1,202
May 21		3.87	1,045
May 24		4.35	1,072
May 31		4.14	1,254
June 9		3.46	501
June 13		3.30	420
June 18		3.05	284
June 25		2.98	197
July 2		2.76	170
July 9		2.50	114
July 17		2.30	58
July 25		2.44	93
August 4		2.21	10
August 17		2.18	25
August 28		2.27	34
September 11		2.58	91
October 8		2.62	95
October 26		2.64	103
November 3		2.63	101
November 10		2.62	97
November 17		2.65	103
November 24		2.74	114
November 29		2.61	94
December 8		2.65	95
December 15		2.65	103
December 22		2.65	100
December 26		2.60	91

\*Ice.

**DAILY GAGE HEIGHT**  
Of Uinta River, near Ft. Duchesne, for 1900.

Day.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
1			*	2.42	2.54	3.08	2.77	2.21	2.20	2.63	2.63	2.70
2			*	2.41	2.51	3.85	2.75	2.20	2.22	2.68	2.65	—
3			*	2.44	2.48	3.78	2.78	—	2.23	2.69	—	—
4			2.78	2.49	2.45	3.71	2.75	2.20	2.35	2.63	—	2.70
5			2.77	2.51	2.48	3.63	2.72	2.35	2.45	2.60	2.65	2.63
6			2.74	2.55	2.53	3.59	2.62	2.47	2.43	2.55	2.61	2.68
7			2.78	2.54	2.52	3.53	2.60	2.43	2.40	2.55	2.64	2.58
8			2.86	2.53	2.55	3.47	2.60	2.40	2.39	2.60	2.65	2.60
9			2.80	2.53	2.60	3.45	2.50	2.39	2.40	—	—	2.63
10			2.68	2.52	2.76	3.39	2.51	2.33	2.48	—	—	2.70
11			2.67	2.46	3.10	3.43	2.48	2.25	2.50	—	—	2.65
12			2.66	2.46	3.38	3.43	2.43	—	2.53	—	—	2.60
13			2.63	2.47	3.25	3.33	2.40	—	2.50	2.60	—	2.50
14			2.61	2.47	3.20	3.20	2.38	—	2.44	2.50	—	2.40
15			2.58	2.46	3.26	3.17	†	2.25	2.44	2.58	—	2.40
16			2.57	2.43	3.67	3.10	—	2.19	2.43	2.63	—	2.50
17			2.56	2.41	3.89	3.08	—	2.17	2.42	2.65	—	2.50
18			2.53	2.40	4.42	3.04	—	2.17	—	2.70	2.05	2.60
19			2.52	—	3.97	3.01	—	2.20	2.42	—	2.70	—
20			2.47	2.40	3.89	2.98	—	2.22	2.43	2.70	2.70	2.60
21			2.44	2.44	3.84	2.99	—	2.27	2.44	2.68	2.75	2.80
22			2.42	2.41	4.05	2.95	—	2.30	2.45	2.63	2.80	2.60
23			2.41	2.43	4.20	2.94	—	—	2.50	2.68	2.80	2.50
24			2.41	2.41	4.33	3.00	—	—	2.68	2.68	2.75	2.40
25			2.41	2.40	4.20	2.98	—	2.30	2.74	2.65	2.75	2.50
26			2.42	2.30	4.38	2.93	—	2.32	2.74	—	2.70	2.60
27			2.43	2.41	4.50	2.85	—	2.32	2.60	—	2.67	—
28			2.38	2.44	4.53	2.87	†	2.31	2.53	—	2.65	—
29			2.38	2.60	4.38	2.82	2.30	2.30	2.52	—	2.61	2.60
30			2.42	2.61	4.17	2.80	2.24	2.29	2.52	—	2.60	—
31			2.43	—	4.00	—	2.22	2.25	—	2.65	—	—

\*Frozen.

†No record July 15-28.

**ESTIMATED MONTHLY DISCHARGE**  
Of Uinta River, near Ft. Duchesne, Utah, for 1900.  
(Drainage area, 672 square miles.)

Month.	Discharge in Second-Feet.			Total in Acre-Feet	Run-Off.	
	Maximum	Minimum	Mean		See.-ft. per Sq. mile	Depth in Inches
January				125	7,086	0.10
February				125	0,042	.19
March	103	85	123	7,503	.18	.21
April	128	85	90	5,891	.15	.17
May	2,343	95	924	50,814	1.38	1.50
June	1,270	140	431	25,010	.04	.71
July	140	25	67	4,120	.10	.12
August	62	20	36	2,214	.05	.06
September	125	25	62	3,080	.09	.10
October	110	70	98	6,020	.16	.17
November	140	90	105	6,248	.16	.18
December	140	55	90	5,534	.13	.15
The year	2,343	20	100	138,373	0.28	3.88

**DISCHARGE MEASUREMENTS**  
Of Uinta River, near Ft. Duchesne, Utah, in 1901.

Date.	Hydrographer.	Gage height. Feet.	Discharge. Second-feet.
April 4	C. T. Prall et al.	2.02	88
April 13	do	2.05	105
April 20	do	2.00	95
April 28	do	2.80	166
May 3	do	3.26	340
May 15	do	4.04	1,089
May 29	do	3.92	883
June 5	do	3.30	330
June 8	do	3.22	295
June 14	do	3.13	266
June 20	do	3.00	193
July 3	do	2.90	140
July 11	do	2.91	177
July 17	do	2.68	91
July 24	do	2.61	76
July 31	do	2.58	76
August 7	do	2.80	158
August 14	do	2.60	91
August 23	do	2.02	190
August 28	do	2.02	194
September 4	do	2.70	140
September 11	do	2.65	106
September 18	do	2.63	103
September 25	do	2.05	105
October 2	do	2.63	102
October 12	do	2.65	106
October 16	do	2.65	108
October 23	do	2.62	101
October 31	do	2.75	132
November 6	do	2.08	116
November 13	do	2.03	102
November 20	do	2.03	101
November 27	do	2.03	108
December 4	do	2.78	157
December 11	do	*2.87	168
December 18	do	*2.90	137
December 27	do	*	126

\*Ice.

**DAILY GAGE HEIGHT**  
Of Uinta River, at Ft. Duchesne, for 1901.

Day.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
1	-----	-----	3.20	2.53	3.32	3.53	2.95	2.55	2.89	2.65	2.75	2.73
2	-----	-----	3.20	2.53	3.30	3.49	2.90	2.55	2.85	2.64	2.75	2.75
3	-----	-----	2.98	2.55	3.28	3.46	2.88	2.57	2.81	2.62	2.73	2.78
4	-----	-----	2.90	2.55	3.13	3.43	2.85	2.60	2.80	2.66	2.72	2.80
5	-----	-----	2.85	2.58	3.07	3.51	2.85	2.60	2.79	-----	2.70	2.80
6	-----	-----	2.80	2.61	3.02	3.25	2.84	2.68	2.77	2.66	-----	2.80
7	-----	-----	2.78	2.61	3.04	3.20	2.80	2.84	2.74	2.67	2.70	2.75
8	-----	-----	2.75	2.62	3.09	3.20	2.80	2.90	2.70	2.70	2.69	2.62
9	-----	-----	2.70	2.65	3.23	3.19	2.85	2.85	-----	2.70	2.67	2.70
10	-----	-----	-----	2.66	3.51	3.10	2.88	2.76	2.70	2.69	2.66	2.85
11	-----	-----	2.68	3.83	3.16	2.90	2.73	2.68	2.68	2.65	2.85	-----
12	-----	-----	-----	4.29	3.13	2.85	2.77	-----	2.65	-----	2.80	-----
13	-----	-----	-----	4.45	3.11	2.80	2.74	-----	-----	-----	2.80	-----
14	-----	-----	2.70	-----	4.55	3.10	2.80	2.72	2.68	-----	-----	2.55
15	-----	-----	2.68	2.68	4.35	3.09	2.80	2.71	2.65	-----	-----	2.55
16	-----	-----	-----	2.65	4.50	3.07	2.80	2.07	2.63	-----	-----	2.55
17	-----	-----	2.68	2.60	4.03	3.04	2.77	2.64	-----	2.65	-----	*
18	-----	-----	2.66	2.60	4.08	3.00	2.70	2.68	-----	2.64	2.65	*
19	-----	-----	2.65	2.63	2.85	3.03	2.70	3.53	-----	2.63	2.64	*
20	-----	-----	2.65	2.65	2.63	3.01	2.03	3.15	2.03	-----	-----	*
21	-----	-----	2.63	2.69	4.28	3.00	2.60	3.05	2.62	-----	-----	*
22	-----	-----	2.63	2.70	3.08	3.04	-----	2.08	2.02	-----	-----	*
23	-----	-----	2.65	2.70	3.70	3.01	-----	2.03	2.60	-----	-----	*
24	-----	-----	2.63	2.74	3.70	3.00	2.00	2.88	2.60	2.64	2.64	*
25	-----	-----	2.60	2.75	3.83	2.07	2.65	2.84	2.05	2.68	2.08	*
26	-----	-----	2.60	2.80	3.85	2.04	-----	2.81	-----	2.63	-----	*
27	-----	-----	2.58	2.81	3.00	2.02	2.65	2.80	-----	2.85	-----	*
28	-----	-----	2.55	2.81	3.06	2.02	2.08	2.88	-----	2.75	-----	*
29	-----	-----	2.55	2.78	3.89	2.02	2.03	2.94	-----	-----	2.68	*
30	-----	-----	2.63	2.85	3.73	2.03	2.05	3.00	2.65	-----	2.70	*
31	-----	-----	2.52	-----	3.03	-----	2.00	3.11	-----	2.75	-----	*

\*Frozen.

**ESTIMATED MONTHLY DISCHARGE**  
**OF Uinta River, near Ft. Duchesne, Utah, for 1901.**  
 (Drainage area, 672 square miles.)

Month.	Discharge in Second-Feet.			Total in Acre-Feet.	Run-Off,	
	Maximum	Minimum.	Mean.		Sec.-ft. per Sq. mile.	Depth in Inches.
January			*135	8,301	.20	.23
February			*135	7,498	.20	.21
March	205	77	132	8,116	.20	.23
April 4	184	87	117	6,962	.17	.19
May	4,520	218	1,188	73,047	1.77	2.04
June	485	184	261	15,531	.39	.44
July	201	97	140	8,608	.21	.24
August	485	87	168	10,330	.25	.29
September	184	97	121	7,200	.18	.20
October	184	97	116	7,133	.17	.20
November	137	109	117	6,902	.17	.19
December			*130	7,093	.10	.22
The year			*230	167,684	.34	4.08

\*Estimated.

**DISCHARGE MEASUREMENTS**  
**OF Uinta River, at Fort Duchesne, Utah, in 1902**

Date.	Hydrographer.	Gage height	Discharge.	
			Feet.	Second-feet.
January 3	C. T. Prall	Frozen.	134	
January 9	do	"	123	
January 10	do	"	126	
February 6	do	"	133	
February 13	do	"	129	
February 20	do	"	125	
February 27	do	"	145	
March 7	do	2.70	111	
March 12	do	2.68	110	
March 20	do	2.66	113	
March 26	do	2.70	123	
April 5	do	2.05	101	
April 9	do	2.60	93	
April 16	do	2.54	76	
April 23	do	2.65	100	
April 30	do	2.57	87	
May 7	do	2.72	131	
May 14	do	3.00	898	
May 21	do	3.42	429	
May 28	do	4.33	1,603	
June 5	do	4.05	1,125	
June 11	do	3.92	928	
June 18	do	3.35	407	
June 25	do	3.12	281	
July 2	do	3.18	312	
July 9	do	2.88	180	

**DISCHARGE MEASUREMENTS—(Continued.)**  
**Of Uinta River, near Ft. Duchesne, Utah,**

Date.	Hydrographer.	Gage height. Feet.	Discharge. Second-feet.
July 18	Prall and Reed	2.80	138
July 23	H. S. Reed	2.67	93
July 30	do	2.50	56
August 7	do	2.40	40
August 14	do	2.50	59
August 21	do	2.36	32
August 28	do	2.43	43
September 4	do	2.40	38
September 11	do	2.30	24
September 18	do	2.42	38
September 21	do	3.10	304
September 25	do	2.55	69
October 2	do	2.52	65
October 8	H. S. Reed	2.55	67
October 22	do	2.55	70
October 30	do	2.58	66
November 5	do	2.61	77
November 12	do	2.80	151
November 19	do	2.70	114
November 26	do	2.62	65
December 3	do	2.60	56
December 9	do	2.81	105
December 16	do	2.90	83
December 20	do		92

**DAILY GAGE HEIGHT.**  
**In feet, of Uinta River, at Fort Duchesne, Utah, for 1902.**

Day.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
1	*	*	2.60	2.75	2.00	4.30	3.14	2.45	2.47	2.52	2.58	2.60
2			2.60	2.05	2.02	4.05	3.17	2.43	2.45	2.52	2.58	2.60
3			2.53	2.04	2.05	3.00	3.09	2.41	2.42	2.52	2.58	2.60
4			2.48	2.03	2.08	3.05	3.05	2.40	2.41	2.52	2.58	2.53
5			2.63	2.03	2.72	3.08	3.03	2.40	2.39	2.53	2.60	2.60
6			2.60	2.03	2.75	3.05	3.00	2.40	2.37	2.53	2.60	2.70
7			2.85	2.03	2.75	3.03	2.98	2.40	2.35	2.53	2.60	2.75
8			2.85	2.03	2.85	3.03	2.93	2.40	2.35	2.54	2.62	2.80
9			2.83	2.02	2.90	4.03	2.87	2.40	2.35	2.55	2.62	2.80
10			2.80	2.00	3.20	3.85	2.85	2.38	2.35	2.55	2.62	2.80
11			2.74	2.58	3.48	3.74	2.83	2.37	2.35	2.55	2.73	2.80
12			2.68	2.58	3.74	3.73	2.81	2.50	2.37	2.58	2.78	2.80
13			2.70	2.58	3.68	3.70	2.80	2.50	2.38	2.58	2.67	2.82
14			2.68	2.58	3.85	3.68	2.77	2.50	2.38	2.58	2.68	2.57
15			2.66	2.50	3.94	3.58	2.74	2.48	2.38	2.58	2.68	2.53
16			2.68	2.54	4.00	3.48	2.72	2.45	2.40	2.57	2.64	2.48
17			2.68	2.53	4.08	3.42	2.78	2.43	2.40	2.50	2.65	2.48
18			2.68	2.54	3.80	3.38	2.70	2.40	2.40	2.66	2.68	2.66
19			2.65	2.55	3.00	3.20	2.73	2.40	2.43	2.56	2.70	2.80
20			2.65	2.60	3.53	3.25	2.70	2.38	2.45	2.56	2.70	2.80
21			2.65	2.70	3.39	3.24	2.70	2.38	2.08	2.56	2.70	*
22			2.65	2.80	3.31	3.20	2.68	2.35	2.58	2.56	2.70	—
23			2.65	2.68	3.20	3.17	2.65	2.32	2.52	2.56	2.70	—

## DAILY GAGE HEIGHT—(Continued.)

Day.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
24.	—	—	2.68	2.66	3.19	3.11	2.63	2.36	2.52	2.56	2.70	—
25.	—	—	2.70	2.65	3.30	3.10	2.62	2.38	2.52	2.58	2.70	—
26.	—	—	2.70	2.60	3.50	3.10	2.62	2.38	2.52	2.58	2.62	—
27.	—	—	2.70	2.60	4.03	3.10	2.59	2.35	2.52	2.58	2.62	—
28.	—	—	2.72	2.60	4.48	3.10	2.57	2.43	2.52	2.60	2.62	—
29.	—	—	2.65	2.60	4.45	3.11	2.51	2.50	2.52	2.60	2.62	—
30.	—	—	2.65	2.58	4.43	3.12	2.50	2.50	2.52	2.60	2.62	—
31.	—	—	2.70	—	4.44	—	2.47	2.49	—	2.60	—	—

\*River frozen.

RATING TABLE  
For Uinta River, at Fort Duchesne, Utah, for 1902.

Gage height.	Discharge.	Gage height.	Discharge.	Gage height.	Discharge.	Gage height.	Discharge.
Feet.	Sec.-feet.	Feet.	Sec.-feet.	Feet.	Sec.-feet.	Feet.	Sec.-feet.
2.3	20	3.2	320	4.1	1,230	5.0	3,064
2.4	40	3.3	370	4.2	1,432	5.1	3,268
2.5	60	3.4	420	4.3	1,636	5.2	3,472
2.6	92	3.5	500	4.4	1,840	5.3	3,676
2.7	126	3.6	580	4.5	2,044	5.4	3,880
2.8	160	3.7	660	4.6	2,248	5.5	4,084
2.9	200	3.8	770	4.7	2,452		
3.0	240	3.9	890	4.8	2,656		
3.1	280	4.0	1,050	4.9	2,860		

ESTIMATED MONTHLY DISCHARGE  
Of Uinta River, at Fort Duchesne, Utah, for 1902.  
(Drainage area, 672 square miles.)

Month.	Discharge in Second-Feet.			Total in Acre-Feet.	Run-Off.	
	Maximum	Minimum	Mean		Sec.-ft. per Sq. mile.	Depth in Inches.
January*	—	—	—	125	7,686	0.10
February*	—	—	—	130	7,220	.19
March	180	56	118	7,252	.18	.21
April	160	70	98	5,857	.15	.17
May	2,002	92	662	40,703	.99	1.14
June	1,036	280	622	37,012	.93	1.01
July	308	54	158	9,729	.24	.28
August	60	24	43	2,076	.06	.07
September	292	30	54	3,217	.08	
October	92	66	79	4,852	.12	.14
November	153	60	102	6,052	.15	.17
December* %	—	—	85	5,205	.13	.15
The year	2,002	24	190	137,401	.28	3.88

\*January 1 to March 1 and December 21 to 31, river frozen; quantities estimated.

Note.—Daily discharges from November 26 to December 31 were obtained from the discharge measurements by interpolation.

The observations at this station during 1903 have been made under the direction of H. S. Reed, district hydrographer.

**DISCHARGE MEASUREMENTS**  
Of Uinta River, at Fort Duchesne, Utah, in 1903.

Date.	Hydrographer.	Gage height.	Discharge.	
			Feet.	Second-feet.
January 2	H. S. Reed		65	
January 12	do		66	
April 2	do	2.88	176	
April 8	do	2.65	109	
April 16	do	2.62	98	
April 22	do	2.63	105	
April 29	do	2.67	123	
May 6	do	2.85	182	
May 13	do	3.47	614	
May 17	do	3.95	1,157	
May 20	do	3.45	558	
May 27	do	3.15	348	
June 4	do	4.30	2,476	
June 9	do	4.40	3,019	
June 18	do	4.10	1,455	
June 25	do	3.57	635	
July 1	do	3.42	523	
July 9	do	3.23	406	
July 15	do	3.05	281	
July 22	do	3.10	328	
July 28	do	2.97	240	
August 4	do	2.72	126	
August 14	do	2.60	84	
August 20	do	2.53	72	
August 26	do	2.60	82	
September 2	do	2.48	70	
September 10	do	2.65	107	
September 17	do	2.75	158	
September 28	do	2.60	100	
October 2	do	2.93	231	
October 6	do	2.80	162	
October 10	do	2.73	125	
October 24	do	2.60	125	
October 24	do	2.00	88	
October 24	do	2.00	92	
October 28	do	2.00	107	
November 12	do	2.75	184	
November 19	do	2.60	100	
November 26	do	2.75	149	
December 7	do	2.65	64	

**MEAN DAILY GAGE HEIGHT**  
**In feet, of Uinta River, at Fort Duchesne, Utah, for 1903.**

Day.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
1	2.98	2.68	4.00	3.32	2.80	2.50	2.80	2.68	2.70	
2	2.90	2.66	4.27	3.35	2.80	2.50	2.90	2.65	2.70	
3	2.75	2.67	4.32	3.32	2.80	2.50	2.92	2.69	2.65	
4	2.74	2.73	4.29	3.27	2.72	2.50	2.87	2.69	2.60	
5	2.71	2.78	4.24	3.21	2.70	2.55	2.86	2.70	2.53	
6	2.62	2.82	4.23	3.17	2.69	3.00	2.87	2.70	2.50	
7	2.67	2.91	4.19	3.35	2.66	2.88	2.85	2.70	2.42	
8	2.68	2.96	4.30	3.29	2.63	2.79	2.80	2.70	2.40	
9	2.71	3.00	4.37	3.21	2.61	2.70	2.73	2.70	2.35	
10	2.74	3.07	4.24	3.12	2.60	2.61	2.70	2.67	2.30	
11	2.77	3.11	4.29	3.08	3.60	2.66	2.76	2.67	2.30	
12	2.74	3.18	4.20	3.07	2.60	2.82	2.78	2.75	2.30	
13	2.62	3.44	4.15	3.07	2.62	2.87	2.78	2.75	---	
14	2.62	3.88	4.12	3.08	2.63	2.92	2.78	2.70	---	
15	2.65	4.04	4.10	3.15	2.61	2.87	2.78	2.75	---	
16	2.65	4.07	4.07	3.40	2.59	2.82	2.78	2.75	---	
17	2.65	3.90	4.06	3.38	2.58	2.77	2.78	2.70	---	
18	2.61	3.67	4.05	3.14	2.58	2.72	2.74	2.65	---	
19	2.60	3.46	3.96	3.08	2.50	2.65	2.72	2.70	---	
20	2.60	3.41	3.92	3.01	2.55	2.63	2.74	2.75	---	
21	2.61	3.40	3.90	3.07	2.54	2.62	2.73	2.60	---	
22	2.61	3.39	3.86	3.15	2.57	2.61	2.75	2.60	---	
23	2.67	3.26	3.80	3.12	2.64	2.60	2.73	2.81	---	
24	2.71	3.20	3.77	3.09	2.62	2.60	2.71	2.80	---	
25	2.74	3.14	2.62	3.02	2.62	2.60	2.70	2.77	---	
26	2.77	3.14	3.06	3.02	2.62	2.58	2.70	2.70	---	
27	2.75	3.10	3.55	3.02	2.62	2.50	2.70	2.70	---	
28	2.72	3.14	3.49	2.97	2.59	2.60	2.70	2.70	---	
29	2.72	2.70	3.14	3.48	2.91	2.57	2.60	2.68	2.70	---
30	2.60	2.69	3.14	3.46	2.87	2.55	2.63	2.68	2.70	---
31	2.65	3.60	-----	2.82	2.52	-----	2.68	-----	-----	-----

**RATING TABLE**  
For Uinta River, at Fort Duchesne, Utah, for 1903.

Gage height.	Discharge.	Gage height.	Discharge.	Gage height.	Discharge.	Gage height.	Discharge.
Feet.	Sec.-feet.	Feet.	Sec.-feet.	Feet.	Sec.-feet.	Feet.	Sec.-feet.
2.3	43	2.9	205	3.5	600	4.1	1,450
2.4	53	3.0	259	3.6	685	4.2	1,800
2.5	70	3.1	320	3.7	790	4.3	2,400
2.6	94	3.2	385	3.8	915	4.4	3,060
2.7	123	3.3	453	3.9	1,060		
2.8	150	3.4	524	4.0	1,230		

Table well defined.

**ESTIMATED MONTHLY DISCHARGE**  
Of Uinta River at Fort Duchesne, Utah, for 1903.  
(Drainage area, 672 square miles.)

Month.	Discharge in Second-Feet.			Total in Acre-Feet.	Run-Off.	
	Maximum.	Minimum.	Mean.		Sec.-ft. per Sq. mile.	Depth in Inches.
March 20-31			186	1,107	0.28	.03
April	259	94	125	7,438	.10	.21
May	1,330	108	461	28,346	.09	.80
June	2,730	501	1,440	85,086	2.14	2.30
July	524	150	343	21,000	.51	.50
August	150	70	102	0,272	.15	.17
September	259	70	121	7,200	.18	.20
October	205	123	149	9,102	.22	.25
November	205	108	133	7,014	.20	.22
December 1-12			73	1,738	.11	.05
The period	2,730	70	313	175,053	.467	4.01

**DISCHARGE MEASUREMENTS**  
Of Uinta River, at Fort Duchesne, Utah, in 1901.

Date.	Hydrographer.	Width.	Area of section.	Mean velocity.	Gage height.	Discharge.
		Feet.	Square feet.	Ft. per second.	Feet.	Second-feet.
March 2	H. S. Reed	47	66	2.12	2.73	140
March 12*	do	40	46	1.01	2.41	48
March 17*	do	47	54	1.43	2.55	77
March 26*	do	40	41	.80	2.35	33
April 15*	do	48	60	1.85	2.65	111
April 18*	do	48	56	1.73	2.60	97
April 18†	do	67	73	1.14	2.60	83
April 19*	do	48	58	1.76	2.63	103
April 19†	do	67	76	1.14	2.63	87
April 23‡	Reed and Murphy	61	68	1.03	2.57	70
April 30‡	H. S. Reed	70	88	1.73	2.85	152
May 20‡	Reed and Curtis	54	268	5.22	4.08	1,399
May 21‡	do	54	258	4.94	4.60	1,274
June 1‡	H. S. Reed	54	247	3.96	4.20	977
June 13‡	do	54	232	2.82	3.90	655
June 14§	do	54	238	3.25	4.00	773
June 14**	do	51	237	3.40	4.00	805
June 22§	do	54	225	2.39	3.65	537
June 22§	do	54	226	2.28	3.65	510
July 8*	do	75	97	3.32	3.20	322
July 8†	do	80	121	2.46	3.20	298
July 13*	do	72	87	2.49	3.00	217
July 13†	do	76	100	1.99	3.00	199
July 14**	do	53	104	.99	2.03	192
July 14§	do	53	101	1.00	2.03	191
July 14*	do	64	81	2.43	2.03	197
July 14†	do	70	98	1.85	2.03	181
August 1†	do	68	87	1.55	2.81	135
August 1*	do	52	68	2.16	2.81	147
August 22†	do	68	82	1.48	2.75	121
August 22*	do	50	61	2.00	2.75	131
September 10*	do	48	56	1.60	2.05	93
September 10†	do	67	73	1.22	2.05	89
November 3*	do	50	68	2.49	2.80	144
November 4†	do	50	62	2.21	2.75	115
November 4†	do	68	80	1.30	2.75	100

\*Measurements made by wading at old upper or 1903 section.

†Measurements made by wading at new lower or 1901 section.

‡Made from bridge.

§Made from bridge, using 5-foot sections.

\*\*Made from bridge, using 2-foot sections.

**MEAN DAILY GAGE HEIGHT**  
In feet, of Uinta River, at Fort Duchesne, Utah, for 1901.

Day.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
1	*	*	2.73	2.60	2.89	4.10	3.20	2.80	2.82	2.80	2.90	2.72
2	*	*	2.70	2.60	2.91	4.08	3.20	2.79	2.75	2.80	2.90	2.70
3	*	*	2.70	2.58	2.92	3.98	3.08	2.75	2.72	2.79	2.90	2.70
4	*	*	2.70	2.60	2.90	3.90	3.01	2.72	2.73	2.78	2.80	*
5	*	*	2.69	2.60	2.88	3.82	3.10	2.70	2.78	2.78	2.89	*
6	*	*	2.68	2.58	2.83	3.78	3.00	2.69	2.74	2.88	2.80	*
7	*	*	2.65	2.55	2.86	3.85	3.17	2.69	2.72	2.90	2.80	*
8	*	*	2.65	2.52	2.91	4.15	3.18	2.66	2.70	2.80	2.80	*
9	*	*	2.65	2.50	2.95	3.98	3.12	2.64	2.68	2.92	2.90	*
10	*	*	2.62	2.50	3.16	3.90	3.08	2.60	2.67	2.90	2.80	*
11	*	*	2.53	2.58	3.40	3.95	3.05	2.75	2.65	2.90	2.88	*
12	*	*	2.51	2.63	3.78	4.04	3.00	2.70	2.66	2.90	2.85	*
13	*	*	2.50	2.65	4.00	3.95	2.98	2.80	2.68	2.95	2.85	*
14	*	*	2.52	2.65	4.35	3.90	2.95	2.80	2.68	2.95	2.85	*
15	*	*	2.56	2.65	4.44	3.85	2.91	2.82	2.68	2.95	2.85	*
16	*	*	2.61	2.62	4.38	3.75	2.90	2.85	2.68	2.95	2.85	*
17	*	*	2.60	2.60	4.32	3.80	2.87	2.98	2.67	2.93	2.85	*
18	*	*	2.58	2.60	4.55	3.78	2.86	3.00	2.68	2.91	2.85	*
19	*	*	2.60	2.61	4.70	3.74	2.83	2.96	2.68	2.94	2.85	*
20	*	*	2.60	2.61	4.70	3.68	2.82	2.85	2.70	2.91	2.85	*
21	*	*	2.58	2.69	4.70	3.61	2.82	2.80	2.82	2.90	2.85	*
22	*	*	2.45	2.50	4.55	3.59	2.80	2.78	2.82	2.90	2.85	*
23	*	*	2.45	2.50	5.15	3.58	2.70	2.75	2.89	2.90	2.85	*
24	*	*	2.45	2.60	5.35	3.58	2.70	2.80	2.89	2.90	2.85	*
25	*	*	2.42	2.60	5.15	3.55	2.90	2.79	2.87	2.90	2.83	*
26	*	*	2.41	2.60	4.78	3.38	2.84	2.79	2.86	2.90	2.80	*
27	*	*	2.48	2.60	4.45	3.31	2.80	2.82	2.85	2.90	2.77	*
28	*	*	2.80	2.50	2.73	4.33	3.20	2.80	2.85	2.84	2.90	*
29	*	*	2.73	2.68	2.81	4.30	3.20	2.92	2.86	2.80	2.75	*
30	*	*	2.05	2.80	4.18	3.20	2.87	2.84	2.80	2.90	2.75	*
31	*	*	2.60	-----	4.12	-----	2.83	2.88	-----	2.90	-----	*

\*River frozen over.

**RATING TABLE**

For Uinta River at Fort Duchesne, Utah, from January 1 to December 31, 1901.

Gage height.	Discharge.	Gage height.	Discharge.	Gage height.	Discharge.	Gage height.	Discharge.
Feet.	Sec.-feet.	Feet.	Sec.-feet.	Feet.	Sec.-feet.	Feet.	Sec.-feet.
2.40	44	2.85	107	3.60	523	4.60	1,210
2.45	55	2.90	184	3.70	680	4.60	1,297
2.50	67	2.95	201	3.80	653	4.70	1,385
2.55	80	3.00	219	3.90	724	4.80	1,475
2.60	93	3.10	260	4.00	799	4.90	1,565
2.65	107	3.20	304	4.10	878	5.00	1,655
2.70	121	3.30	363	4.20	950	5.10	1,745
2.75	136	3.40	406	4.30	1,041	5.20	1,835
2.80	151	3.50	463	4.40	1,125	5.30	1,930

The above table is applicable only for open-channel conditions. It is based upon 10 discharge measurements made during 1901 and is well defined. In the preparation of this table measurements made at the new or 1901 wading section and measurements at the bridge using 5-foot verticals have been discarded.

**ESTIMATED MONTHLY DISCHARGE  
OF Uinta River, at Fort Duchesne, Utah, for 1904.  
(Drainage area, 672 square miles.)**

Month.	Discharge in Second-Feet.			Total in Acre-feet.	Run-Off.	
	Maximum.	Minimum.	Mean.		Sec.-ft. per Sq. mile.	Depth in Inches.
March	130	46	89	5,491	0.133	0.153
April	170	67	99	5,891	.147	.164
May	1,980	101	966	59,400	1.44	1.66
June	918	304	627	37,310	.933	1.04
July	304	148	207	12,730	.308	.355
August	210	93	149	9,162	.222	.256
September	181	107	137	8,152	.204	.228
October	215	145	182	11,190	.271	.312
November	181	136	168	9,997	.250	.270
December 1-3	127	121	123	732	.183	.200
The period	1,980	46	275	100,100	.400	4.47

**TABLE OF EVAPORATION  
At Fort Duchesne, Utah, for 1904.**

Month.	Total evaporation in inches.
August 20-27	0.35
September	3.18
October	1.81
November 1-10	.43
Total for period	5.80
Average daily evaporation	0.0734

**MONTHLY DISCHARGE**  
 In thousands of acre-feet of Uinta River, at Ft. Duchesne.  
 (Drainage area, 672 square miles.)

### Green River at Greenriver, Utah.

This station was established October 21, 1894, discontinued in November, 1899, and reestablished February 16, 1905. It is located at the Rio Grande Western Railway bridge at Greenriver (formerly Blake), Utah, in latitude  $39^{\circ}$  north, longitude  $110^{\circ} 9'$  west, in the San Rafael quadrangle.

At low and ordinary stages discharge measurements are made from a ferryboat at a point 400 to 500 feet above the bridge. The cable to which the ferryboat is attached is graduated at 20-foot intervals with white paint. The initial point for soundings is the south face of a blazed tree, to which the cable is attached, on the west side of the stream. High-water measurements are made from the lower chord on the upstream side of the steel-truss railroad bridge. The initial point for soundings is a white zero mark across the rail on the east end of the bridge.

The channel is straight for about 2,000 feet above and 1,000 feet below the station. Both banks are barren and are sufficiently high to prevent overflow. At the ferry cable the bed is of clay and shale, and is apparently permanent except for a thin layer of silt or sand, which is deposited near the center at low stages and sluices out at high stages. The bed at the railroad bridge is in the main solid rock and is probably permanent, but is rather rough in profile. Conditions for high-water measurements are unfavorable owing to the large masonry piers of the bridge and the high velocity of the current. The velocity at the low-water section is low. Information in regard to winter conditions is incomplete.

The gage, which was read during 1905 by Frank Jacobs, is of the chain type, and is attached to the upper guard rail of the bridge at a point near the second pier from the west end. The length of the chain is 28.45 feet. The distance from the outside edge of the pulley to the 3-foot mark on the gage rod is 1.85 feet. The old bench mark established in 1894 was on a

pier, but a new bridge has since been constructed and the pier changed. It was therefore impossible to get a definite tie to the original datum. A rough tie was, however, obtained from the old inclined gage on the shore near the pump house, and this showed the present datum to be 1.68 feet below the original. In view of the fact that the cross section at the gage has been changed to some extent by the relocation of the bridge piers, it is probably impossible to establish a satisfactory relation between the original records and those now being taken. The present bench mark is the top of a 1½-inch iron drift bolt set in the west abutment of the railroad bridge on the north side. The bolt projects about 8 inches above the surface of the stone and is on one of the footing courses of the abutment about 3 feet from the top; elevation of bench mark above the zero of the gage, 25.64 feet.

Information in regard to this station is contained in the following publications of the United States Geological Survey (Ann=Annual Report; Bull=Bulletin; WS=Water-Supply Paper):

Description: Ann 18, iv, pp 275-276; Bull 131, p 48; 140, pp 202-203; WS 16, p 136; 28, p 131; 37, pp 292-293.

Discharge: Ann 18, iv, p 276; 19, iv, p 396; Bull 131, pp 48, 92; 140, p 202; WS 16, p 136; 37, p 293.

Discharge, monthly: Ann 18, iv, p 278; 19, iv, p 398; 20, iv, p 378, 387; 21, iv, p 304.

Discharge, yearly: Ann 20, iv, p 58.

Gage heights: Bull 140, p 203; WS 11, p 70; 16, p 136; 28, p 134; 37, p 293.

Hydrographs: Ann 18, iv, p 279; 19, iv, p 398; 20, iv, p 388; 21, iv, p 305.

Rainfall and run-off relation: Ann 20, iv, p 379.

Rating tables: Ann 18, iv, p 277; 19, iv, p 397; WS 28, p 144; 39, p 451.

**DISCHARGE MEASUREMENTS**  
Of Green River, at Greenriver, Utah, in 1894.

Date.	Hydrographer.	Gage height.	Discharge.	
			Feet.	Second-feet.
October 21.....	A. P. Davis.....	2.48		3,035

**DAILY GAGE HEIGHT**  
Of Green River, at Greenriver, Utah, in 1894.

Day.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
1.....											2.10	1.50
5.....											2.10	1.50
6.....											2.00	1.35
7.....												1.20
10.....												1.20
11.....												1.30
12.....												1.20
13.....												1.10
14.....												1.25
15.....												0.70
16.....											2.00	0.95
17.....											1.90	1.05
18.....												1.10
19.....											1.90	1.30
20.....											1.85	1.40
21.....											*2.00	1.80
22.....											2.05	1.80
23.....												1.75
24.....											2.05	1.70
25.....											2.00	1.60
26.....											2.00	1.55
27.....											2.10	1.50
28.....											2.05	1.45
29.....												1.40
30.....											2.05	1.50
31.....											2.10	1.20

\*Readings begun October 21.

**DISCHARGE MEASUREMENTS**  
Of Green River, at Greenriver, Utah, in 1895.

Date.	Hydrographer.	Gage height.	Discharge.	
			Feet.	Second-feet.
June 30.....	A. P. Davis.....	5.80		15,065
September 0.....	do.....	2.00		1,938

**DAILY GAGE HEIGHT**  
Of Green River, at Greenriver, for 1895.

Day.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
1	1.20	1.20	1.40	3.50	6.15	6.95	6.00	3.70	2.40	2.10	2.00	1.10
2	1.10	1.10	1.45	-----	6.40	6.75	6.05	3.80	-----	-----	-----	1.20
3	-----	1.70	3.50	6.40	6.50	6.15	3.75	-----	2.10	2.00	1.40	-----
4	-----	1.10	1.85	3.45	6.30	6.40	6.20	3.70	2.40	2.15	2.15	1.65
5	1.10	1.15	1.90	3.05	6.15	6.25	6.05	3.65	2.35	2.20	2.20	1.70
6	1.20	1.20	2.05	3.00	5.95	5.95	5.95	3.60	2.25	2.30	2.10	1.80
7	1.20	1.20	2.10	-----	5.65	5.95	5.65	3.55	2.20	2.65	2.00	1.70
8	1.10	1.25	2.10	-----	5.00	6.10	5.50	3.50	2.20	2.60	2.10	1.70
9	1.30	1.30	2.20	-----	5.50	6.00	5.40	3.40	2.10	2.50	2.05	1.60
10	1.20	-----	2.15	-----	5.55	5.95	5.40	3.40	2.10	2.40	2.00	1.65
11	1.25	-----	2.10	3.00	5.80	5.90	5.30	3.35	2.00	2.45	2.10	1.70
12	1.30	1.30	-----	2.95	6.25	6.05	5.35	3.25	-----	2.65	2.10	1.60
13	1.20	1.20	-----	2.90	6.75	6.25	5.45	3.20	2.00	2.70	-----	1.65
14	-----	2.10	3.05	7.10	6.40	5.25	3.45	1.90	2.60	2.10	1.70	-----
15	1.20	-----	2.20	3.15	7.20	6.30	5.25	3.50	1.90	2.55	2.00	1.80
16	1.25	-----	2.35	3.60	7.25	6.30	5.30	3.20	1.80	2.45	1.90	1.75
17	1.30	-----	2.25	3.80	7.45	6.30	5.25	2.95	1.80	2.40	-----	1.80
18	1.40	-----	2.25	3.95	7.55	6.05	5.15	2.90	1.95	2.25	-----	1.70
19	1.40	-----	1.95	4.30	7.00	6.00	4.85	2.85	2.80	2.10	-----	1.70
20	1.50	-----	1.90	4.50	7.60	6.95	4.65	2.80	2.25	-----	1.90	1.80
21	1.50	-----	2.05	4.40	7.50	5.95	4.45	2.75	2.00	2.10	2.00	-----
22	1.45	-----	2.20	4.70	7.50	5.95	4.40	2.70	1.90	2.25	2.00	1.80
23	1.40	-----	2.70	5.20	7.45	5.75	4.30	2.60	-----	2.60	2.10	1.70
24	1.30	1.20	3.60	5.40	7.10	5.45	-----	2.50	1.90	2.20	2.10	1.60
25	1.25	1.35	3.60	5.60	7.15	5.30	4.30	2.45	1.80	2.15	1.90	1.65
26	1.25	1.40	3.30	5.30	7.10	5.30	4.25	2.40	1.90	2.10	1.80	1.70
27	1.30	1.40	3.05	5.20	7.30	5.20	4.15	2.50	1.95	-----	1.55	1.60
28	1.30	1.40	2.90	5.55	7.20	5.25	4.00	2.45	2.00	2.10	1.25	1.50
29	1.20	-----	2.00	5.80	7.20	5.50	3.90	2.40	2.00	2.10	2.05	1.00
30	-----	-----	3.00	5.05	7.10	*5.85	3.80	-----	2.10	2.05	1.00	1.40
31	1.20	-----	3.20	-----	7.00	-----	3.75	2.40	-----	2.00	-----	1.45

\*New gage.

**ESTIMATED MONTHLY DISCHARGE  
Of Green River, near Greenriver, Utah, for 1895.  
(Drainage area, 38,200 square miles.)**

Month.	Discharge in Second-Feet.			Total in Acre Feet	Run-Off.	
	Maximum	Minimum.	Mean.		Sec.-ft. per Sq. mile.	Depth in Inches.
January -----	1,500	1,100	1,272	78,212	0.03	0.03
February -----	1,420	1,100	1,194	68,650	.03	.03
March -----	8,500	1,420	4,098	251,976	.11	.13
April -----	17,140	5,980	10,012	505,755	.26	.29
May -----	21,460	15,340	19,242	1,183,143	.50	.58
June -----	19,300	12,820	15,760	937,784	.41	.46
July -----	16,420	7,780	12,263	754,023	.32	.37
August -----	7,780	2,750	5,203	319,920	.14	.16
September -----	2,750	1,420	1,995	118,711	.05	.05
October -----	3,820	1,700	2,537	155,004	.07	.08
November -----	2,100	610	1,648	98,063	.04	.04
December -----	1,420	670	1,237	76,060	.03	.03
The year ..	21,460	610	6,372	4,638,291	0.17	2.25

**DISCHARGE MEASUREMENTS  
Of Green River, at Greenriver, Utah, in 1896.**

Date.	Hydrographer.	Gage height.	Discharge.	
			Feet.	Second-feet.
November 9-----	C. C. Bubb .....	2.33		1,910

**DAILY GAGE HEIGHT**  
Of Green River, at Greenriver, Utah, for 1896.

Day.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
1-----	1.55	1.80	1.80	3.40	6.35	8.85	5.95	4.40	2.95	3.10	2.55	-----
2-----	1.65	1.70	1.80	3.60	6.35	9.30	5.75	4.30	2.85	3.20	2.50	-----
3-----	1.75	-----	1.90	3.50	6.00	9.65	5.55	3.95	2.75	3.05	2.50	-----
4-----	1.85	1.70	2.00	3.45	5.75	9.65	5.35	3.75	2.65	3.00	2.50	-----
5-----	1.70	1.60	1.95	3.40	5.55	9.45	5.15	3.65	2.50	3.00	2.40	-----
6-----	1.70	1.70	2.00	3.20	5.55	9.25	5.05	3.60	2.50	2.90	2.30	-----
7-----	1.60	1.75	2.00	3.00	5.80	9.05	5.00	3.50	2.50	2.85	2.25	-----
8-----	1.65	1.70	2.05	2.90	6.20	8.95	4.80	3.45	2.45	2.70	2.40	-----
9-----	1.70	1.70	2.10	-----	6.55	8.75	4.70	3.35	2.40	-----	2.30	-----
10-----	1.60	1.80	-----	2.90	6.75	8.70	4.60	3.30	2.70	-----	2.30	-----
11-----	1.65	1.70	-----	3.00	6.85	8.70	4.95	3.40	2.65	2.70	2.25	-----
12-----	1.70	1.60	-----	3.10	6.90	8.45	4.35	3.35	2.85	2.60	2.20	-----
13-----	1.60	1.60	2.10	3.20	6.75	8.25	4.20	3.15	2.80	-----	2.20	-----
14-----	1.50	1.50	2.20	3.45	6.55	8.20	4.25	3.00	2.70	-----	2.20	-----
15-----	1.45	1.50	2.30	3.50	6.40	8.30	4.40	2.90	2.70	-----	2.15	-----
16-----	1.55	1.60	2.40	3.70	6.10	8.75	4.30	2.80	2.70	-----	2.10	-----
17-----	1.65	1.70	2.55	3.75	5.70	8.15	4.70	2.65	2.80	2.60	2.20	-----
18-----	1.75	1.70	2.85	3.90	5.45	8.00	4.30	2.60	2.65	2.65	2.30	-----
19-----	1.60	1.80	3.15	3.85	5.20	7.95	4.45	2.50	2.65	2.50	2.40	-----
20-----	1.65	1.80	3.10	3.95	5.00	7.75	4.80	2.50	3.45	-----	2.50	-----
21-----	1.70	1.90	2.75	4.10	4.85	7.70	4.95	2.65	4.45	-----	2.40	-----
22-----	1.75	1.00	2.70	4.45	4.70	7.55	4.70	2.85	3.00	-----	2.30	-----
23-----	1.75	1.90	2.80	4.10	-----	7.50	4.55	3.05	5.55	2.50	2.40	-----
24-----	1.70	1.80	2.85	3.80	4.70	7.40	4.45	3.20	4.75	2.45	2.50	-----
25-----	1.60	1.80	3.05	3.60	4.85	7.35	4.40	3.15	4.00	2.40	2.60	-----
26-----	1.70	3.25	3.75	5.35	7.15	4.60	3.30	4.25	-----	2.70	-----	-----
27-----	1.60	1.75	3.40	4.10	5.80	6.90	4.60	3.40	3.70	2.40	2.65	-----
28-----	1.70	1.80	3.55	5.00	6.65	6.55	4.65	3.65	3.45	2.55	2.45	-----
29-----	1.70	1.80	3.70	5.70	7.45	6.35	4.60	4.15	3.35	2.40	-----	-----
30-----	1.80	-----	3.60	6.10	8.00	6.15	4.50	3.45	3.20	2.55	-----	1.80
31-----	1.80	-----	3.60	-----	8.40	-----	4.50	3.15	-----	2.65	-----	-----

**ESTIMATED MONTHLY DISCHARGE**  
Of Green River, near Greenriver, Utah, for 1896.  
(Drainage area, 38,200 square miles.)

Month.	Discharge in Second-Feet.			Total in Acre-Feet.	Run-Off.	
	Maximum.	Minimum.	Mean.		Sec.-ft. per Sq. mile.	Depth in Inches
January -----	1,600	1,100	1,200	70,139	0.03	0.03
February -----	1,560	1,100	1,339	67,019	.01	.01
March -----	7,420	1,420	3,455	212,440	.00	.10
April -----	16,060	4,510	7,018	455,087	.20	.22
May -----	24,310	11,020	15,932	1,000,020	.42	.48
June -----	29,050	16,420	23,530	1,010,066	.02	.60
July -----	15,700	9,220	11,261	692,506	.30	.35
August -----	9,040	3,100	6,050	372,000	.16	.18
September -----	14,260	2,750	5,461	325,130	.14	.16
October -----	5,620	2,750	3,705	227,811	.10	.12
November -----	3,820	1,000	2,750	164,104	.07	.08
December -----	1,900	1,420	1,619	99,548	.04	.04
The year --	28,950	1,100	7,005	5,100,340	.18	2.40

**DISCHARGE MEASUREMENTS**  
Of Green River, at Greenriver, Utah, in 1897.

Date.	Hydrographer.	Gage height.	Discharge.
		Feet.	Second-feet.
April 21-----	C. C. Babb and W. B. Dougall	4.88	8,175
May 22-----	do	10.10	55,886
November 22	do	2.80	3,373

**DAILY GAGE HEIGHT**  
Of Green River, at Greenriver, Utah for 1897.

Day.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
1				6.75	10.55	5.55	3.30	2.30	3.95	3.20	2.60	
2	1.70				7.05	10.25	5.35	3.30	2.20	4.50	3.70	2.50
3				3.70	7.40	10.20	5.15	3.20	2.20	-----	3.15	2.40
4				3.70	7.80	10.00	5.15	3.10	2.35	4.50	3.10	2.30
5				3.60	8.25	10.00	5.25	3.20	2.20	4.30	3.10	2.20
6		1.80	2.00	3.75	8.70	9.05	5.20	3.30	2.35	4.15	3.00	2.10
7				3.05	8.00	9.15	5.00	3.40	2.40	4.05	-----	2.00
8				3.50	9.05	8.60	4.90	3.50	2.55	4.35	3.00	1.90
9	1.70			3.50	9.25	8.20	4.80	3.50	2.70	4.55	2.00	-----
10				3.60	9.45	7.00	4.70	3.40	2.85	4.85	-----	
11				3.70	9.65	7.00	4.60	-----	3.25	4.75	2.00	1.90
12				3.55	9.00	7.50	4.50	3.40	4.70	4.00	2.80	1.80
13		1.00		3.55	9.05	7.80	4.40	3.45	4.70	4.50	-----	1.80
14				3.70	9.85	7.70	4.30	3.50	5.30	4.35	-----	1.70
15			2.00	3.05	9.25	7.80	4.20	3.50	2.70	4.10	-----	1.70
16	1.80			4.15	9.15	7.70	4.10	3.40	3.40	3.85	-----	1.60
17				4.35	9.35	7.60	-----	3.30	3.30	3.80	-----	1.50
18				4.50	9.55	7.50	4.10	3.15	2.00	3.70	-----	1.40
19				4.60	9.75	7.35	4.00	3.05	2.80	3.70	-----	1.40
20		1.00	2.10	4.60	9.95	7.25	4.00	2.00	2.80	3.60	-----	1.30
21				4.75	10.05	7.10	3.90	2.85	2.70	3.60	-----	1.40
22				5.00	10.05	6.95	3.90	2.20	2.60	3.50	-----	1.30
23	1.60			5.15	10.05	6.75	3.80	2.70	2.50	3.50	-----	1.20
24				6.15	10.25	6.55	-----	2.60	-----	3.40	-----	1.20
25				6.30	10.00	6.85	3.80	2.60	-----	3.50	-----	1.10
26				5.80	11.00	6.25	3.70	2.50	2.50	3.55	-----	1.20
27		1.95	2.90	5.70	11.25	6.15	3.60	2.50	2.05	3.45	-----	1.30
28				5.70	11.35	6.35	3.50	2.40	2.85	3.40	-----	1.25
29				3.90	5.05	11.40	5.95	-----	4.20	3.05	3.40	2.80
30	1.60			6.30	11.15	5.75	3.50	2.40	3.35	3.30	2.70	1.40
31				10.05	-----	3.40	2.40	-----	3.20	-----	1.30	

**ESTIMATED MONTHLY DISCHARGE  
Of Green River, near Greenriver, Utah, for 1897.**  
(Drainage area, 38,200 square miles.)

Month.	Discharge in Second-Feet.			Total in Acre-Feet	Run-Off.	
	Maximum	Minimum	Mean.		Sec. ft. per Sq. mile.	Depth in Inches.
January			*1,300	79,934	.03	.03
February			*1,500	83,306	.04	.04
March			*1,700	104,530	.04	.04
April	20,354	4,750	9,133	543,452	.24	.27
May	68,800	24,625	51,331	3,168,517	1.35	1.56
June	60,725	15,125	34,838	2,073,000	.91	1.01
July	13,225	4,510	7,047	433,306	.18	.21
August	4,750	2,410	3,788	232,917	.10	.12
September	11,000	2,020	3,682	219,091	.10	.11
October	8,300	4,120	5,768	354,663	.15	.17
November	4,120	3,070	3,459	205,824	.09	.10
December	2,860	1,010	1,456	89,527	.04	.04
The year	68,800	1,010	10,434	7,588,070	.27	3.70

\*Estimated.

**DAILY GAGE HEIGHT  
Of Green River, at Greenriver, Utah, for 1898.**

Day.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
1	1.35	4.10	4.00	3.20	0.30	6.65	7.05	2.95	2.15	1.50	2.00	1.40
2	1.40	4.00	4.10	3.10	0.30	6.70	6.90	2.90	2.25	1.60	2.10	1.50
3	1.50	3.90	4.15	3.00	0.20	6.85	6.75	2.80	2.25	—	2.00	1.30
4	1.75	4.00	4.25	3.00	0.30	7.00	6.55	2.70	2.40	1.60	2.20	1.40
5	1.95	4.10	4.20	2.95	0.20	6.90	6.20	2.65	2.70	1.70	2.10	1.50
6	2.40	4.00	4.30	2.90	0.30	6.80	5.80	2.55	2.60	—	2.00	1.60
7	2.70	4.00	4.10	3.00	0.30	6.70	5.40	2.50	2.30	—	2.10	—
8	3.00	4.10	4.05	3.10	0.60	6.65	5.15	2.50	2.30	—	2.00	—
9	3.25	3.90	3.95	3.20	0.30	6.60	5.05	2.40	2.25	1.70	2.10	—
10	3.45	4.00	3.85	3.30	—	6.40	5.00	2.40	2.25	1.80	2.00	—
11	3.70	3.95	3.65	3.45	—	6.30	5.20	—	2.10	—	2.10	—
12	3.80	3.75	3.45	3.70	0.30	6.35	5.10	—	2.30	1.80	—	—
13	4.00	3.05	3.25	4.10	6.10	6.45	5.00	—	2.20	1.90	2.10	—
14	3.90	3.55	3.20	4.45	6.30	6.55	5.10	—	2.20	—	2.05	—
15	4.00	3.60	3.20	4.60	6.30	6.65	5.00	—	2.10	—	1.30	—
16	4.10	3.70	3.15	4.90	6.40	6.75	4.90	—	2.10	—	1.30	—
17	3.95	3.80	3.10	5.25	6.50	6.80	5.00	—	2.00	—	1.10	—
18	3.95	3.60	3.05	5.45	6.40	6.90	4.85	2.40	—	—	1.30	1.60
19	4.10	3.70	3.00	5.65	6.30	6.95	4.65	2.40	—	—	1.20	1.70
20	4.00	3.70	—	5.85	6.30	7.00	4.40	2.50	2.00	—	1.30	—
21	3.90	3.70	—	6.05	6.20	7.10	4.30	2.40	1.90	1.00	1.20	—
22	4.00	3.80	—	6.20	6.30	7.20	4.20	—	1.90	2.00	—	—
23	4.05	3.80	—	6.30	6.40	7.35	4.10	—	1.85	—	1.20	—
24	4.00	3.90	—	6.25	6.35	7.00	4.00	—	1.80	—	1.30	—
25	4.10	—	—	6.15	6.35	7.00	3.90	—	1.75	—	—	—
26	3.05	—	3.00	6.05	6.40	7.75	3.80	2.40	1.70	—	1.30	—
27	3.05	3.90	3.05	5.90	6.30	7.55	3.70	2.35	1.55	—	1.30	—
28	4.10	4.00	3.95	6.00	6.40	7.50	3.60	2.30	1.40	—	1.40	—
29	3.05	—	3.50	6.10	6.40	7.40	3.25	—	1.40	—	1.50	1.70
30	4.00	—	3.40	6.20	6.45	7.30	3.15	2.30	1.45	—	1.50	1.80
31	4.00	—	3.30	—	6.55	—	3.05	2.20	—	2.00	—	1.80

**ESTIMATED MONTHLY DISCHARGE  
OF Green River, near Greenriver, Utah, for 1898.**  
(Drainage area, 38,200 square miles.)

Month.	Discharge in Second-Feet.			Total in Acre-Feet.	Run-Off.	
	Maximum	Minimum	Mean.		Sec.-ft. per Sq. mile.	Depth in Inches.
January	6,010	1,140	4,865	288,071	0.12	.14
February	6,010	4,855	5,500	305,454	.14	.15
March	6,430	2,910	4,657	286,350	.12	.14
April	20,350	3,490	10,479	623,423	.27	.30
May	23,200	18,450	20,687	1,272,002	.51	.62
June	35,550	20,350	26,557	1,580,248	.69	.77
July	27,475	3,805	10,331	635,233	.27	.31
August	3,505	2,020	2,566	157,778	.06	.07
September	3,070	1,160	1,811	109,547	.05	.06
October	1,600	1,200	1,460	89,772	.04	.05
November	2,020	1,080	1,413	84,079	.01	.05
December	1,400	1,120	1,271	78,451	.03	.03
The year	35,550	1,080	7,621	5,510,108	0.20	2.09

**DAILY GAGE HEIGHT  
Of Green River at Greenriver, Utah, for 1898.**

Day.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
1	1.80	2.10	2.00	3.55	5.85	7.15	9.55	5.40	3.25	2.50	-----	-----
2		2.10	2.00	3.50	5.65	7.25	9.35	5.45	3.20	2.40	-----	-----
3			2.20	2.10		5.55	7.35	9.15	5.20	-----	-----	-----
4				2.20	2.10	3.50	5.25	7.15	8.95	6.60	-----	-----
5					2.10	2.20	3.40	5.05	7.55	8.75	6.55	3.20
6							4.85	7.65	8.55	6.40	3.10	-----
7							3.40	4.95	7.75	8.40	6.30	-----
8							3.30	5.15	7.85	8.30	6.15	-----
9							2.20	3.20	5.50	8.05	8.20	6.00
10							2.30	3.20	5.00	8.20	8.10	5.85
11							3.30	6.15	8.30	8.00	5.65	-----
12	1.80				3.30	6.35	8.40	7.90	5.45	3.00	-----	-----
13	1.90	2.10			3.30	6.55	8.50	7.80	5.25	2.90	-----	-----
14		2.00	2.30	3.30	6.65	8.50	7.70	5.20	2.85	2.40	-----	-----
15			2.35	3.40	6.05	8.65	7.60	5.10	2.80	-----	-----	-----
16				2.40	3.50	7.30	8.90	7.50	5.00	-----	-----	-----
17				2.00		3.60	7.55	9.20	7.40	4.05	2.80	-----
18	1.90	2.10	2.40	3.75	7.75	9.15	7.30	4.85	2.70	-----	-----	-----
19	2.00		2.50	3.95	7.75	9.10	7.15	4.75	2.70	-----	-----	-----
20		2.10	2.60	4.15	7.65	9.40	7.00	4.05	2.65	-----	-----	-----
21		2.00	2.70	4.35	7.60	9.50	6.85	4.55	2.60	-----	-----	-----
22			2.85	4.55	7.60	9.75	6.65	4.45	2.60	-----	-----	-----
23				3.05	4.75	7.50	9.00	6.45	4.25	2.55	-----	-----
24		2.00		3.25	4.95	7.50	10.00	6.25	4.05	2.50	-----	-----
25		2.10		3.45	5.05	7.40	10.05	6.05	3.85	-----	-----	-----
26		2.10		3.65	5.25	7.25	10.25	5.90	3.65	-----	-----	-----
27		2.20		3.85	5.45	7.15	10.30	5.75	3.50	-----	-----	-----
28		2.00		4.05	5.65	6.90	10.15	5.60	3.30	3.45	-----	-----
29				4.25	5.85	6.95	9.95	5.50	-----	2.50	-----	-----
30				2.10	6.00	7.05	9.75	5.50	-----	-----	-----	-----
31		2.20		3.75	-----	7.10	-----	5.45	-----	-----	-----	-----

**ESTIMATED MONTHLY DISCHARGE  
Of Green River, near Greenriver, Utah, for 1890.**  
(Drainage area, 38,200 square miles.)

Month.	Discharge in Second-Feet.			Total in Acre-Feet.	Run-Off.	
	Maximum.	Minimum.	Mean.		Sec.-ft. per Sq. mile.	Depth in Inches.
January	2,020	1,100	1,585	97,458	.06	.07
February	2,020	1,600	1,735	96,357	.06	.06
March	6,325	1,600	3,111	191,288	.11	.13
April	17,500	4,120	6,808	405,104	.24	.27
May	34,125	8,300	23,237	1,428,787	.82	.94
June	58,350	28,475	44,086	2,623,290	1.56	1.74
July	51,225	12,375	30,555	1,778,754	1.08	1.25
August	23,200	4,330	10,654	655,089	.38	.44
September	4,225	2,650	3,343	198,922	.12	.13
October 1-14	2,650	2,440	2,455	150,952	.09	.10
The period	58,350	1,100	12,757	7,826,010	0.45	5.13

**DISCHARGE MEASUREMENTS  
Of Green River at Greenriver, Utah, in 1905.**

Date.	Hydrographer.	Width.	Area of section.	Mean velocity.	Gage height.	Discharge.
		Feet.	Square feet.	Ft. per second.	Feet.	Second-feet.
March 10*	W. G. Swensen	450	1,005	1.05	4.70	3,129
April 25*	do	452	2,202	2.33	5.65	5,338
April 25*	do	452	2,202	2.34	5.65	5,380
May 12†	do	448	2,800	3.46	6.40	0,686
June 2†	do	474	3,864	5.76	8.80	22,270
June 20†	do	482	3,083	6.35	9.05	25,310
August 23*	A. B. Larson	438	1,059	1.31	4.14	2,175
August 23*	do	438	1,050	1.30	4.14	2,160

\*Measurement made from railroad bridge.

## DAILY GAGE HEIGHT

In feet, of Green River, at Greenriver, Utah, for 1905.

Day.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
1			3.8	4.6	5.95	8.95	7.5	5.05	3.9	5.9	4.0	3.9
2			3.9	4.75	6.1	8.8	7.4	5.0	3.9	5.2	4.05	3.8
3			3.9	4.8	6.6	9.0	7.3	5.0	3.9	4.9	3.95	3.6
4			4.05	4.6	6.85	9.25	7.25	5.0	3.9	4.85	3.85	3.4
5			4.1	4.5	7.15	9.6	7.2	5.0	4.05	4.65	4.05	3.4
6			4.1	4.5	7.3	9.8	7.1	5.0	4.05	4.6	4.15	3.3
7			4.25	4.5	7.25	9.85	7.0	4.9	4.7	4.45	4.1	3.3
8			4.5	4.5	7.0	10.05	6.9	4.8	4.45	4.4	4.1	3.2
9			4.6	4.6	6.7	10.3	6.8	4.7	4.35	5.25	4.2	3.2
10			4.9	4.5	6.6	10.55	6.7	4.7	4.45	4.3	4.1	3.2
11			5.05	4.5	6.4	10.5	6.6	4.6	4.55	4.4	4.0	3.3
12			5.0	4.55	6.4	10.05	6.45	4.55	4.55	4.3	3.05	3.35
13			4.85	4.75	6.6	10.2	6.3	4.5	4.35	4.2	3.9	3.4
14			4.75	5.0	6.95	10.2	6.25	4.5	5.25	4.25	3.85	3.4
15			4.7	5.15	6.75	9.95	6.05	4.5	4.05	4.1	4.0	3.4
16			3.8	4.7	5.4	6.55	8.85	6.0	4.5	4.0	4.1	4.0
17			3.6	4.7	5.3	6.4	9.35	5.95	4.45	3.9	4.1	4.0
18			3.45	4.7	5.3	6.4	9.25	5.85	4.35	4.0	4.1	3.4
19			3.45	4.7	5.65	6.4	9.15	5.8	4.2	4.1	4.0	3.9
20			3.5	4.8	5.65	6.6	9.05	5.75	4.2	4.0	3.9	3.4
21			3.5	4.75	5.45	7.0	8.85	5.7	4.2	4.15	3.9	4.0
22			3.5	4.95	5.4	7.55	8.65	5.7	4.2	4.2	4.0	4.4
23			3.6	5.0	5.5	7.95	8.55	5.6	4.2	4.3	4.05	4.25
24			3.6	4.9	5.55	8.3	8.4	5.6	4.0	4.2	4.0	3.6
25			3.6	4.8	5.65	8.6	8.35	5.5	4.0	4.4	4.0	4.1
26			3.7	4.8	5.65	8.85	8.15	5.45	4.15	4.45	4.0	4.0
27			3.7	4.08	5.5	9.05	8.05	5.4	4.15	4.6	4.0	4.05
28			3.8	4.8	5.65	9.2	7.85	5.3	4.0	4.05	4.0	4.15
29			4.8	5.75	9.05	7.75	5.25	4.0	5.15	4.0	4.1	3.6
30			4.7	5.95	9.05	7.6	5.2	3.95	5.85	4.0	4.0	3.6
31			4.7	-----	9.0	-----	5.2	3.9	-----	4.0	-----	3.6

Note.—Ice conditions December 23-31.

**STATION RATING TABLE**  
**For Green River, at Greenriver, Utah, from February 16, 1905, to December 31,**  
**1905.**

Gage height. Feet.	Dis-charge. Sec.-feet.	Gage height. Feet.	Dis-charge. Sec.-feet.	Gage height. Feet.	Dis-charge. Sec.-feet.	Gage height. Feet.	Dis-charge. Sec.-feet.
3.20	1,220	4.60	2,900	6.00	7,110	7.80	16,110
3.30	1,290	4.70	3,100	6.10	7,510	8.00	17,360
3.40	1,370	4.80	3,320	6.20	7,920	8.20	18,670
3.50	1,460	4.90	3,560	6.30	8,340	8.40	20,020
3.60	1,550	5.00	3,820	6.40	8,770	8.60	21,410
3.70	1,650	5.10	4,090	6.50	9,210	8.80	22,870
3.80	1,760	5.20	4,370	6.60	9,660	9.00	24,400
3.90	1,870	5.30	4,660	6.70	10,120	9.20	25,970
4.00	1,990	5.40	4,960	6.80	10,600	9.40	27,590
4.10	2,120	5.50	5,280	6.90	11,090	9.60	29,260
4.20	2,260	5.60	5,620	7.00	11,590	9.80	30,970
4.30	2,410	5.70	5,970	7.20	12,610	10.00	32,720
4.40	2,560	5.80	6,340	7.40	13,750	10.50	37,230
4.50	2,720	5.90	6,720	7.60	14,900		

Note.—The above table is applicable only for open-channel conditions. It is based on eight discharge measurements made during 1905. It is fairly well defined between gage heights 4.1 feet and 9.1 feet.

**ESTIMATED MONTHLY DISCHARGE.**  
**Of Green River, at Greenriver, Utah, for 1905.**  
     (Drainage area, 38,200 square miles.)

Month.	Discharge in Second-Foot.			Total in Acre-Feet.	Run-Off.	
	Maximum.	Minimum.	Mean.		Sec.-ft. per Sq. mile.	Depth in Inches.
February 16-28	1,760	1,415	1,556	40,120	0.011	.020
March	3,955	1,790	3,020	185,700	.079	.091
April	6,915	2,720	4,256	253,200	.111	.124
May	25,970	6,915	13,910	855,300	.364	.420
June	37,700	14,900	20,380	1,570,000	.691	.771
July	14,320	4,370	8,202	504,300	.215	.218
August	3,055	1,870	2,751	169,200	.072	.083
September	6,530	1,870	2,530	150,600	.000	.074
October	6,720	1,870	2,506	151,100	.000	.076
November	2,560	1,815	2,052	122,100	.054	.000
December 1-22	1,870	1,220	1,382	60,300	.030	.029
The period.	37,700	1,220	5,712	4,065,000	0.15	2.00

## MONTHLY DISCHARGE

Drainage area, Green River, at Greenriver, Utah.  
 In thousands of acre-feet of  
 38,200 square miles.)

Year.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Total.		
													Sec. Ft. per Sq. Mi.	Depth in Inches.	
1895	78.21	68.65	251.18	305.75	1,183.14	387.78	754.02	319.02	118.71	155.91	98.06	76.06	4,638.29	0.17	2.25
1896	79.14	67.02	212.44	435.09	1,009.62	1,404.67	692.60	372.00	325.13	217.81	164.10	99.55	5,101.34	0.18	2.49
1897	74.63	83.31	104.53	543.45	3,168.52	2,073.00	433.51	232.02	219.00	334.66	205.82	80.53	7,558.07	0.27	3.70
1898	288.07	305.45	286.35	623.42	1,272.01	1,580.25	635.25	157.78	109.55	89.77	84.08	78.15	5,510.11	0.20	2.63
1899	97.46	96.36	191.20	405.10	1,428.73	2,623.30	1,578.77	625.06	108.92	150.95	-----	-----	4,085.10	0.15	2.01
1900	-----	-----	185.70	253.20	\$85.30	1,570.00	504.30	169.20	150.60	154.10	122.10	80.40	-----	-----	-----
Mean	127.96	124.15	205.35	479.37	1,486.23	1,608.17	816.42	317.82	187.00	188.88	134.63	84.74	5,386.18	0.19	2.63

**PRECIPITATION**  
At Soldier Summit, in drainage basin of Green River.

Year.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.	Ann.
1892		0.20	0.89	0.83	2.20	0.29	0.12	2.13	—	—	0.71	1.19	—
1893					0.53	0.00	0.23	0.22	0.27	—	—	—	—
1894	3.55	2.20	3.40	0.33	0.45	0.55	1.01	0.17	0.89	0.56	0.00	4.10	17.21
1895	3.50	1.08	1.40	0.32	0.02	0.29	0.34	0.32	0.37	0.17	1.90	1.65	11.96
1896	1.16	1.15	1.47	1.02	0.30	0.14	0.86	0.49	0.48	0.60	3.25	0.90	11.90
1897	1.82	2.80	5.23	0.67	0.10	0.12	0.02	0.06	2.45	0.65	1.34	2.50	17.76
1898	1.25	0.68	2.92	1.56	3.12	0.13	0.00	0.10	0.02	0.65	1.15	1.15	12.73
1899	1.70	3.80	1.40	0.20	0.03	0.44	0.55	0.45	0.00	1.60	0.70	2.35	13.84
1900	0.50	1.80	0.30	0.49	0.00	0.10	0.25	0.39	0.20	0.20	—	—	—
1901	0.85	3.60	—	—	0.21	0.05	1.00	1.68	0.81	0.92	—	0.90	—
1902	0.55	0.70	0.80	0.04	0.02	0.00	—	—	—	—	—	—	—
1903			0.20	—	—	0.00	2.00	—	—	—	—	—	—
1904	1.35	1.30	2.98	0.60	2.22	0.73	0.55	1.15	0.62	1.21	0.00	0.66	13.37
1905	0.59	1.26	1.23	0.81	0.49	0.00	—	—	2.05	0.00	1.25	0.37	—
1906	0.38	1.65	0.64	0.24	1.17	0.21	0.19	1.20	—	0.00	—	—	—
Mean	1.43	1.71	1.76	0.59	0.17	0.20	0.55	0.70	0.37	0.50	1.13	1.58	14.11

**PRECIPITATION**  
At Fort Duchesne, in drainage basin of Green River.

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.	Ann.
1880	0.35	0.18	0.32	0.68	0.73	0.15	0.49	0.56	0.34	0.60	0.05	1.77	5.28
1880	1.01	2.05	0.02	0.21	0.00	0.00	1.35	0.85	0.32	1.17	0.03	0.27	7.28
1891	0.22	0.28	0.57	0.09	0.03	0.34	0.24	0.24	1.40	0.00	0.00	1.06	7.51
1892	0.40	0.30	0.78	1.24	1.35	0.03	0.10	0.08	0.00	0.10	0.14	0.46	5.46
1893	0.42	0.44	2.10	2.01	0.92	0.00	0.17	0.57	0.36	0.16	0.24	0.49	9.18
1894	0.08	0.19	3.50	0.00	0.20	0.34	0.26	0.30	1.88	0.34	0.00	0.69	4.84
1895	0.09	0.03	0.09	0.00	1.53	1.02	0.17	0.20	0.03	0.13	0.00	0.31	4.50
1896	0.60	0.09	0.14	0.21	1.40	0.03	1.45	0.61	2.23	0.54	0.20	0.00	0.99
1897	0.87	0.00	0.28	0.01	0.16	0.02	0.17	0.21	4.01	3.00	0.00	1.20	11.43
1898	0.60	0.10	0.75	0.17	0.61	0.45	0.66	0.66	0.08	0.05	0.13	0.10	4.36
1899	0.20	0.40	2.10	0.60	0.00	0.05	0.71	0.90	0.00	0.83	0.77	0.12	6.68
1900	0.35	0.00	0.00	1.71	3.15	0.06	0.03	0.40	1.25	0.27	0.51	0.30	5.01
1901	0.25	0.05	0.15	0.20	0.60	0.08	0.14	2.47	0.03	0.64	0.10	0.51	0.18
1902	1.70	0.05	0.14	0.70	0.30	0.50	0.03	0.00	1.45	0.00	0.00	0.00	4.89
1903	0.00	0.80	0.08	0.00	1.02	0.28	1.49	0.20	1.20	0.18	0.00	0.00	5.55
1904	0.48	0.04	1.10	0.25	2.78	0.70	0.30	0.06	0.32	0.44	0.00	0.07	7.11
1905	0.50	0.60	1.55	0.69	0.80	0.10	0.09	0.06	5.02	0.28	1.25	0.20	12.13
1906	0.35	0.30	1.10	0.37	1.19	0.10	0.30	1.50	0.95	0.58	1.83	0.00	9.17
Mean	0.40	0.13	0.71	0.56	0.82	0.24	0.47	0.59	1.25	0.56	0.35	0.42	7.27

**PRECIPITATION**  
At Vernal, in drainage basin of Green River.

Year.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.	Ann.
1895 -----	1.00	0.54	1.30	0.08	1.51	0.53	0.76	0.40	0.38	1.03	1.33	0.27	9.13
1896 -----	0.48	0.29	0.38	0.89	0.94	0.01	1.86	0.58	2.48	0.69	0.42	0.04	9.09
1897 -----	0.96	1.11	0.86	0.58	0.62	0.23	1.08	0.26	2.83	2.34	0.42	1.20	12.69
1898 -----	0.63	0.47	0.60	0.50	2.03	0.45	0.34	0.66	1.01	0.30	0.39	0.17	7.50
1899 -----	0.40	0.55	1.93	0.39	0.81	0.78	0.53	1.63	0.00	0.49	0.51	0.39	8.41
1900 -----	0.47	0.12	0.15	2.00	0.26	0.14	0.03	0.22	1.46	0.57	1.21	0.01	6.67
1901 -----	0.71	1.36	0.31	0.33	0.86	0.21	0.21	0.73	0.04	0.42	0.27	0.48	5.93
1902 -----	0.21	0.51	0.86	0.72	0.42	0.51	0.12	0.46	0.99	0.05	1.12	0.37	6.94
1903 -----	0.39	0.96	1.02	0.67	1.30	0.89	1.83	0.13	1.50	0.88	0.18	0.00	9.75
1904 -----	Missing.												10.51
1905 -----	0.58	1.20	1.85	1.22	1.38	0.21	0.52	0.41	1.81	0.15	0.97	0.21	-----
1896 -----	0.96	0.29	1.11	1.52	2.55	0.25	1.18	1.02	1.00	0.39	-----	1.72	-----
Mean -----	0.62	0.67	0.94	0.81	1.17	0.36	0.77	0.60	1.23	0.66	0.68	0.51	8.66

**PRECIPITATION**  
At Greenriver, Utah, in drainage basin of Green River.

Year.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.	Ann.
1897 -----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
1898 -----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
1899 -----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
1900 -----	0.02	0.03	0.00	0.86	0.00	0.05	0.00	0.06	1.27	0.50	0.27	0.00	3.66
1901 -----	0.19	1.33	0.00	0.25	0.73	0.11	0.00	0.97	0.00	0.18	0.00	0.00	3.76
1902 -----	0.28	0.03	0.08	0.00	0.10	0.09	0.00	0.02	1.66	0.03	2.38	0.52	6.39
1903 -----	0.00	0.55	0.02	0.50	0.67	0.05	0.37	1.01	0.12	0.00	0.00	0.01	3.30
1904 -----	0.25	0.35	0.48	-----	0.97	0.00	0.92	0.72	-----	-----	0.00	0.05	-----
1905 -----	0.40	1.15	0.65	1.00	1.05	0.05	0.00	0.06	-----	-----	2.36	0.10	-----
1906 -----	-----	0.00	-----	3.50	0.00	0.00	0.05	-----	-----	-----	-----	-----	-----
Mean -----	0.19	0.58	0.20	1.02	0.72	0.05	0.19	0.67	0.76	0.18	0.82	0.11	5.49

\*Missing; mean value inserted.

## MISCELLANEOUS MEASUREMENTS.

CREEKS, CANALS AND DITCHES IN NORTHEASTERN UTAH, 1903.

Date.		Stream.	Locality.	Gage Et. Feet.	Disch. Sec. Ft.
May 26	H. S. Reed	Canal No. 1	Head-Gate	0.90	7
July 27	do	do	do	1.00	14
Oct. 13	do	do	do	1.20	17
May 26	do	Bench ditch	do	.57	48
Oct. 13	do	do	do	.25	16
Oct. 26	do	Pole Creek	Just above mouth.		11
July 9	do	Dry Gulch Creek	At mouth		12
July 9	do	Government canal below army post.	Below head- gate.		13
May 9	do	Deep Creek	At mouth		1.2
May 27	do	do	do		9.2
May 30	do	Farm Creek	Road cross- ing at mouth		5.5
April 27	do	do	do		1.8
May 4	do	do	do		13
May 25	do	do	do		16
July 20	do	do	do		2.6
April 12	do	Upper Ashley canal	Below bridge crossing.		14
April 12	do	Island ditch	Below weir		1.5
April 12	do	Dodd ditch	do		2.8
April 12	H. S. Reed	Rock Point ditch	Below weir		2.5
April 12	H. S. Reed	Stehnaker ditch	Below weir		1.5
April 12	do	Ashley Central ditch.	Above meas- uring weir.		16
July 20	do	Uinta River	$\frac{3}{4}$ mile be- low regular station.		314
Dec. 1	do	do	do		134

MISCELLANEOUS MEASUREMENTS  
In Duchesne River basin in 1904.  
(By C. Tanner and F. Thomas.)

Date	Stream	Locality	Width	Area of section	Mean velocity	Discharge
			Feet	Square feet	Feet per second	Sec.-feet
Oct. 6	Spring Branch-----	Tributary from left North Fork Duchesne, just above gaging station-----	11	8.4	1.25	10
Oct. 6	--do-----	Tributary North Fork Duchesne from right, just above cable station-----				9.0
Oct. 7	Hades Creek -----	Tributary North Fork Duchesne-----	6	4.3	1.43	6.2
Oct. 7	Mountain stream-----	Tributary North Fork Duchesne, 1 mile below Hades Creek.				1.5
Oct. 7	North Fork Duchesne-----	Reconnaissance survey crossing.	33	30	.80	24
Oct. 8	West Fork Duchesne-----	do-----	14	12	1.17	14
Oct. 8	Nos. 1, 2, 3 and 4-----	Tributaries West Fork Duchesne, between reconnaissance survey crossing and cable station.				3
Oct. 12	Mud Creek -----	At upper contour, State reservoir survey, Strawberry Valley.	3	.8	.82	.6
Oct. 12	Strawberry River-----	do-----	16	9.7	.98	9.7
Oct. 12	Spring Branch -----	do-----				*.2
Oct. 12	--do-----	do-----				.3
Oct. 12	Trout Creek-----	do-----	2.0	1.6	1.10	3.4
Oct. 12	Springs -----	At upper contour, State reservoir survey, Strawberry Valley, between Trout Creek and Coal Canyon.				*.5
Oct. 12	Bryant's Fork-----	At upper contour, State reservoir survey, Strawberry Valley.	5.5	4.7	.64	3.0
Oct. 12	Indian Creek-----	do-----	9	5.0	2.25	18
May 26	Wolf Creek-----	Tributary West Fork Duchesne.	12	9.5	3.35	32
June 16	--do-----	do-----	12	9.4	2.66	25

\*Estimated.

MISCELLANEOUS MEASUREMENTS  
In Dukesne River basin in 1904.—Continued.  
(By C. Tanner and F. Thomas.)

Date	Stream	Locality	Width	Area of section	Mean velocity	Discharge
			Feet	Square feet	Feet per second	Sec-feet
June 26	Wolf Creek-----	Tributary West Fork, Dukesne -----	11	8.0	2.33	19
July 18	do -----	do -----	10	6.1	1.86	12
Aug. 10	do -----	do -----	10	5.2	2.10	11
Oct. 8	do -----	do -----	9.5	4.9	1.56	8
April 5	Duchesne River-----	Twelve miles below forks.	60	66	1.28	85
April 5	Red Creek-----	Four miles above Junction of Currant and Red Creeks.	10	5	1.25	6
April 6	West Fork Dukesne-----	At Forks-----	18	21	1.02	21
April 6	North Fork Dukesne-----	do -----	32	33	1.39	46
April 7	Rock Creek-----	At junction with Dukesne River.	36	42	1.10	46
April 8	Lake Fork-----	Eight miles above junction with Dukesne.	34	43	1.77	77
April 9	Strawberry River-----	At Starvation-----	46	44	2.37	104
April 9	do -----	Above Red Creek-----	32	37	1.45	54
Sept. 2	East Fork of Lake Fork-----	Eight miles above forks of Lake Fork.	41	52	2.26	118
Sept. 24	Water Hollow-----	Tributary Currant Creek -----	5.5	2.5	1.34	3.4
Sept. 24	Little Red Creek-----	do -----	3	1.2	1.10	1.3
Sept. 24	do -----	Currant Creek (from right, $5\frac{1}{2}$ miles above gaging station at road crossing).	3.5	1.2	1.50	1.9
Sept. 29	Creek Nos. 1-2-----	Tributary West Fork of Lake Fork.	-----	-----	-----	*.3
Oct. 4	Rock Creek-----	At Reconnaissance Survey crossing.	-----	22	1.30	31
Oct. 4	Big Spring-----	Tributary Rock Creek, $\frac{3}{4}$ mile below Reconnaissance Survey crossing.	7	4.2	1.75	7.4
Oct. 4	Nos. 1-8-----	Tributary Rock Creek between big spring and cable station.	-----	-----	-----	*2.1
Oct. 4	Tawanta Creek-----	Tributary Rock Creek $\frac{1}{2}$ mile below gaging station.	-----	-----	-----	*.5

\*Estimated.

## CREEKS AND CANALS IN NORTHEASTERN UTAH.

Date	Hydrographer	Stream	Locality	Width	Area of section	Mean velocity	Discharge
				Feet	Square feet	Feet per second	sec.-feet
1904							
Mar. 15	H. S. Reed	Pole Creek	Above mouth	12	6.75	1.10	7.4
May 27	do	do	do	17	18.5	3.41	63
Aug. 29	do	do	do	12	8.1	1.19	9.7
May 24	do	Dry Fork	do	29	50	6.16	308
July 14	do	Dry Gulch Creek.	do	5.5	2	.90	1.8
July 14	do	Government canal below post.	Below head-gate.	6.5	4.6	1.01	8.7
May 27	do	Farm Creek	Above mouth	6.5	4.3	3.51	15
May 16	do	Stream at * Lake (tributary.	West Fork of Lake Creek.	12.5	12	3.09	37
June 29	do	do	do	72	140	5.00	21
June 28	do	Lake Creek	Below junction	12	9	2.31	708

\*This creek has good slope and could be used for water power.

## SEEPAGE INVESTIGATIONS.

### SEEPAGE WATER IN CACHE VALLEY.

From Bulletin No. 50, Utah Agricultural College Experiment Station.

Date, 1896.	Average inflow exclusive of Bear River.—Sec. Ft.	Average flow used in irriga- tion.—Sec. Ft.	Average Outflow. Sec. Ft.	Average Gain from Seepage. Sec. Ft.	Percentage Gain.
June 15-30	2,730	1,155	2,080	505	18.0
July 5-30	1,460	895	745	180	12.4
August 5-30	1,000	530	500	30	3.0
September 5-15	870	360	565	55	6.3

### SEEPAGE WATER IN MORGAN COUNTY.

From Bulletin No. 38, by Samuel Fortier, Utah Agricultural Experiment Station.

Inflow measured from Morgan to Devil's Gate; outflow measured at Devil's Gate.

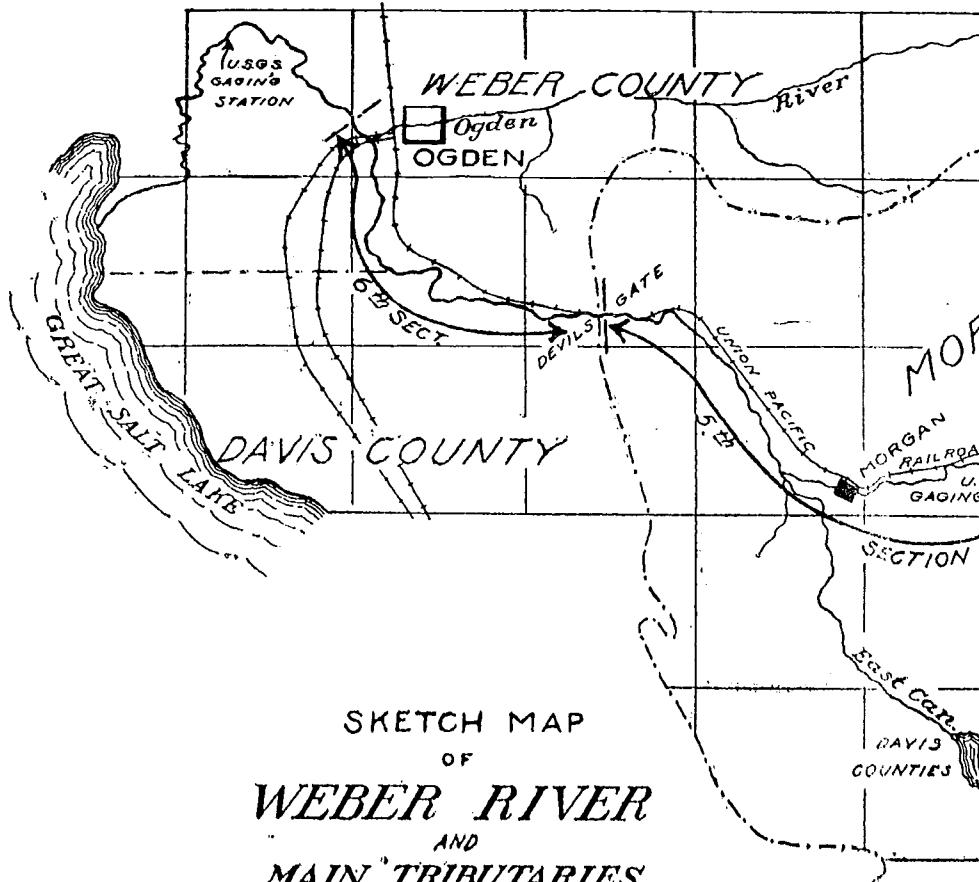
Date, 1894.	Average inflow. Sec. Ft.	Average flow used in irrigation Sec. Ft.	Average outflow. Sec. Ft.	Average gain. Sec. Ft.	Per Cent
August 1-15	135	70	125	60	45

### SEEPAGE WATER IN OGDEN VALLEY.

(Bulletin No. 38, Utah Agricultural College Experiment Station.)

July 10-19, 1894.

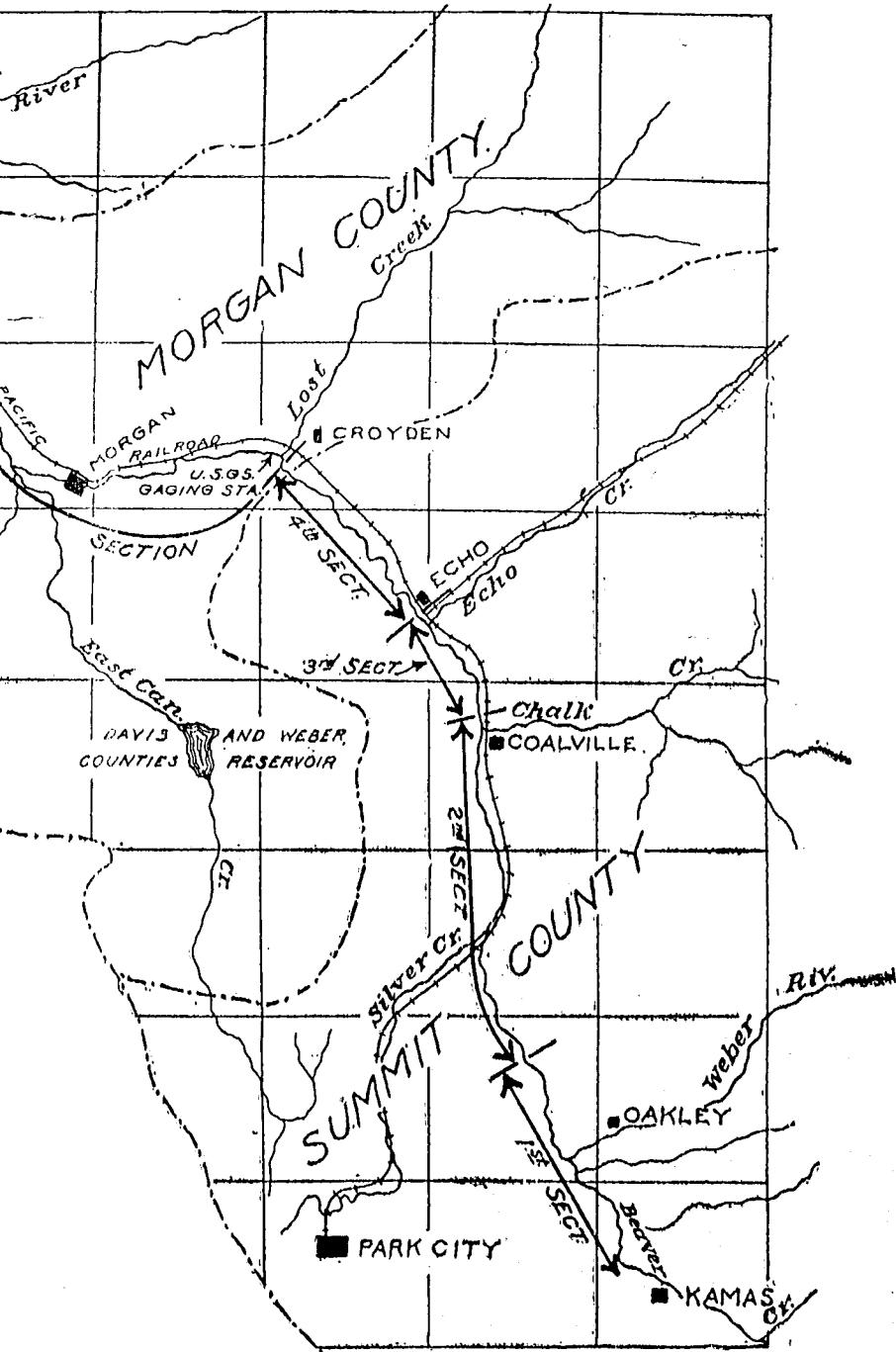
Total volume diverted by canals from Weber river.....	405 Sec. Ft.
Total volume of water available.....	295 " "
Total gain in seepage in 15 miles.....	110 " "
Percentage gained by seepage in 15 miles.....	37 " "



SKETCH MAP  
OF  
**WEBER RIVER**  
AND  
**MAIN TRIBUTARIES**

TO ACCOMPANY TEXT RELATING TO  
SEEPAGE ALONG THE WEBER RIVER

Scale of Miles 0 1 2 3 4 5



## SEEPAGE ALONG WEBER RIVER.

(See Sketch Map.)

(From Bulletin No. 124, U. S. Dept. of Agriculture—Report of Irrigation Investigation in Utah.)

During the last half of August, J. D. Staunard, in company with Mr. W. M. Bostaph, of Ogden, and Mr. Jesse M. Smith and Mr. D. D. Dibble, of Layton, made a series of measurements of Weber River to determine the amount gained by seepage. The measurements were commenced at Ogden on August 13, and were continued up the river to the mouth of the canyon above Oakley, in Summit County. Measurements were made of all ditches which took water from the river and of all the streams flowing into the river. Measurements were also made of the river at various points along its course.

Another object which was held in view in making this trip was the collection of information concerning the ditches. An effort was made to see the officers of the various ditch companies and obtain from them a list of the names and addresses of those using water, with the number of acres irrigated. The value of these measurements as showing the gain or loss from seepage is not so great as it might have been had the measurements been made continuously, without stopping to gather data concerning the ditches and irrigated area, or if the work had begun at the head and continued down stream. However, measurements were made at a season when the flow of the river was subject to very little fluctuation, and there was at this time very little change in the quantity of water which was being taken from the river by the different canals. These facts favor the seepage measurements and add to their value. The results as given below are arranged as though the measurements were commenced at the highest point on the river and carried down.

SEEPAGE MEASUREMENTS, WEBER RIVER.  
August 13-28, 1900.

## First Section:

## Inflow--

	Sec. Ft.
River in Canyon above Oakley-----	62.11
Beaver Creek -----	29.48
	<b>91.59</b>

## Outflow--

New Field and North Bench Ditch-----	18.26
Marion Ditch -----	13.11
Boulderly Ditch -----	11.24
South Bend Ditch-----	3.81
Sage Bottom Ditch-----	3.99
Rockport Ditch-----	3.99
River below Rockport Ditch-----	49.97
	<b>104.37</b>
Gain in section-----	12.78
" " " per cent -----	11

## Second Section:

## Inflow--

River below Rockport Ditch-----	49.97
Chalk Creek -----	1.20
	<b>51.17</b>

## Outflow--

Wanship Ditch No. 2-----	3.73
Wanship Ditch No. 1-----	3.78
E. R. Young Ditch-----	.23
Hoytville Ditch No. 1-----	10.60
West Hoytville Ditch-----	4.35
Conlyville and Hoytville Ditch-----	2.70
River below Chalk Creek-----	30.60
	<b>73.99</b>
Gain in section-----	22.82
" " " per cent -----	44

## Third Section:

## Inflow--

River below Chalk Creek-----	30.60
Echo Creek -----	1.00
	<b>30.60</b>

## Outflow--

River below Echo Creek-----	38.78
Loss in section-----	1.01
" " " per cent -----	4.0

## Fourth Section:

## Inflow--

River below Echo Creek-----	38.78
Outflow--	
Henefer Ditch -----	22.53
John Still Ditch-----	1.83

Stepheus Ditch-----	4.00
River above mouth of Lost Creek-----	20.25
	<b>55.27</b>
Gain in section-----	10.49
" " " per cent -----	12

## SEEPAGE MEASUREMENTS, WEBER RIVER.

August 13-28, 1900.—Continued.

## Fifth Section:

Inflow—	Sec. Ft.
River above Lost Creek	26.25
Lost Creek	12.03
East Canyon Creek	38.19
	76.47
Outflow—	
North Round Valley Ditch	5.32
South Round Valley Ditch	3.86
North Morgan Ditch	3.80
Morgan City Ditch	12.30
Weber Ditch, Morgan City	12.35
Morgan Mill Ditch	11.78
Paulson & Extram Ditch	2.11
River Ditch Peterson	9.65
Bohman Ditch	.25
River below Bohman Ditch (at Devil's Gate)	95.86
	157.28
Gain in section	80.81
" " " per cent	105

## Sixth Section:

Inflow—	
River at United States Geological Survey Gaging Station	107.86
Outflow—	
Davis and Weber Counties Canal	33.67
Bambrough Ditch	3.28
Dunu Ditch	3.93
Uinta Central Ditch	10.50
Pioneer Ditch	4.40
Jones' Ditch	3.62
South Weber Ditch	7.22
Riverdale Ditch	18.08
Weber Ditch	10.70
Taylor Mill Race (estimated)	1.00
Wilson Canal	4.08
Hooper Canal	8.45
River below Hooper Canal	.00
	118.77
Gain in section	10.91
" " " per cent	10.

### SEEPAGE ALONG JORDAN RIVER.

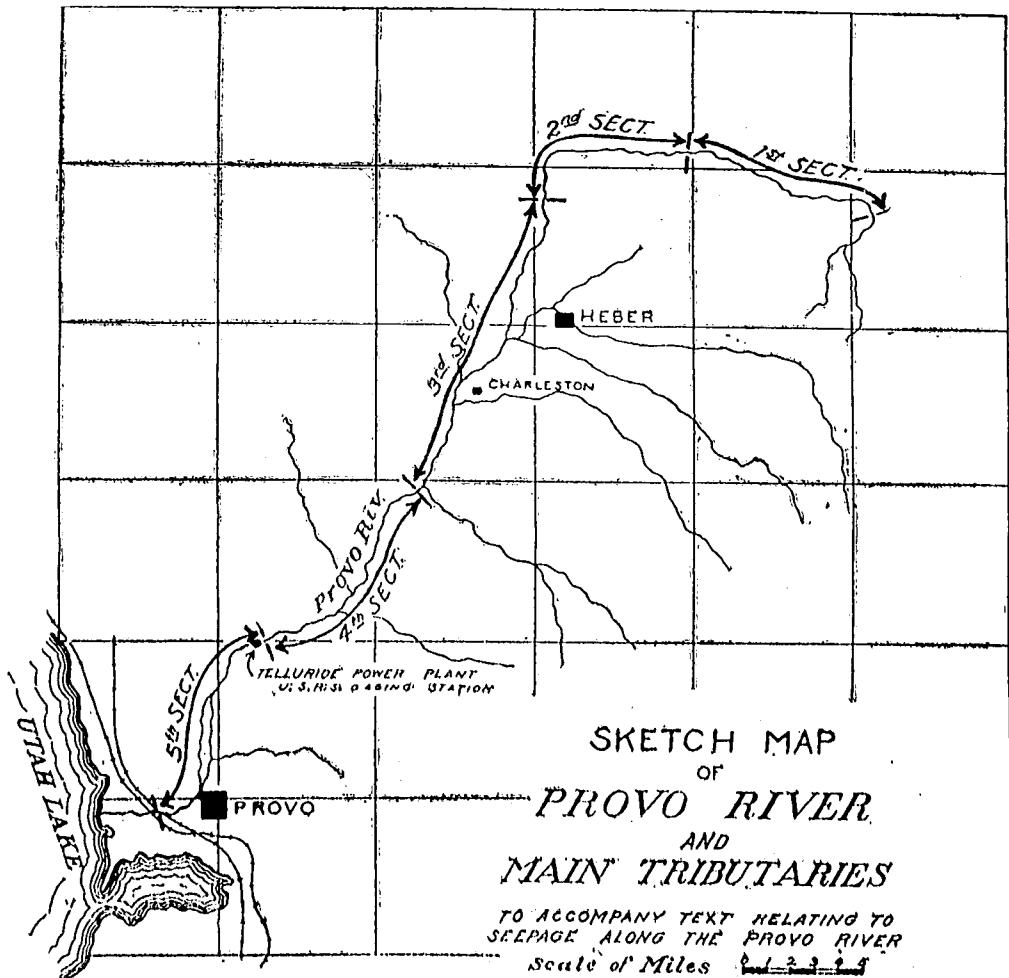
(From Bulletin No. 124, U. S. Dept. of Agriculture, and Reports of J. Fewson Smith, Jr., Water Commissioner Jordan District, Salt Lake County.)

Section under investigation is that between the Jordan Narrows Power Plant, below the intakes of the Jordan & Salt Lake, the East Jordan, the South Jordan and the Jordan & Salt Lake City canals, and the head of the North Jordan canal.

The inflow is the flow over the Jordan Narrows weir, and the outflow the total flow of the canals heading in the section, including the North Jordan canal.

#### SEEPAGE ALONG JORDAN RIVER.

Year	Period	Average inflow	Average outflow	Average gain	Average per cent. gain
1901 -----	July 1 to October 31	51 Sec. ft.	143 Sec. ft.	92 Sec. ft.	180
1902 -----	May 1 to October 31	31 Sec. ft.	94 Sec. ft.	63 Sec. ft.	203
1903 -----	May 1 to October 31	30 Sec. ft.	80 Sec. ft.	55 Sec. ft.	183
1904 -----	May 1 to October 15	58 Sec. ft.	140 Sec. ft.	82 Sec. ft.	141
1905 -----	May 1 to October 15	42 Sec. ft.	127 Sec. ft.	85 Sec. ft.	202
1906 -----	May 1 to October 30	37 Sec. ft.	100 Sec. ft.	72 Sec. ft.	105
Mean for six years.		42 Sec. ft.	116 Sec. ft.	75 Sec. ft.	184



**SEEPAGE ALONG PROVO RIVER.**  
(See Sketch Map.)

With a view of determining the amount of water which returns to the river after having been diverted, a series of measurements was made during the month of August, 1900, the portion of the river measured lying between its entrance into Kamas Valley and its mouth in Utah Lake. In this distance, which approximates 50 miles, the river passes through three valleys—Kamas, Provo, and Utah Lake valleys—and through two canyons which separate these valleys.

The river was divided into five sections, in each of which the return seepage was determined separately. In the study of each section it was necessary to determine four factors, viz, the flow of the river at its point of entrance to the section, the amount of all diversions, the inflow from all tributaries, and the flow of the river at the lower end of the section. From the data thus obtained the tables which follow have been derived.

The following table gives the gain in the river from seepage in passing through the Kamas Valley.

**TABLE SHOWING RETURN SEEPAGE IN KAMAS VALLEY.**  
(First Section.)  
(Length of section, 9.5 miles.)

	August 24		August 21-25	
	Inflow	Outflow	Inflow	Outflow
	Cu. ft. per sec.	Cu. ft. per sec.	Cu. ft. per sec.	Cu. ft. per sec.
Discharge, upper end Kamas Valley	65.47		61.51	
Inflow to river from Moons Mill Race	8.70		8.35	
Diversions from river in section:				
Moons Mill Race		8.70		8.35
Sunrise Canal		3.43		2.88
South Kamas Canal		15.10		14.20
Washington Canal		.00		.00
Individual ditches		18.10		15.23
Discharge, lower end Kamas Valley	35.80		33.91	
Total outflow of section	74.23	81.34	69.86	74.01
Gain in section		7.11		4.16

CANYON SECTION BETWEEN KAMAS AND PROVO VALLEYS.  
(Second Section.)

Throughout this section the river is confined in a narrow canyon, along which there are a few individual ditches. Several small tributaries also join the river. Their flow, however, was not measured; hence the figures given in the following table represent, in addition to the gain due to return seepage, the flow of these tributaries.

TABLE SHOWING RETURN SEEPAGE BETWEEN KAMAS AND PROVO VALLEYS.  
(Length of section, 7.25 miles.)

	August 2-4		August 21-25	
	Inflow	Outflow	Inflow	Outflow
	Cu. ft. per sec.	Cu. ft. per sec.	Cu. ft. per sec.	Cu. ft. per sec.
Discharge, lower end Kamas Valley -----	35.86	-----	33.31	-----
Diversions from river in section: Individual ditches along canyon -----	-----	6.25	-----	5.15
Discharge, upper end Provo Valley -----	-----	51.30	-----	48.37
Total -----	35.86	57.55	33.31	53.52
Gain in section -----	-----	21.69	-----	20.21

PROVO VALLEY SECTION.  
(Third Section.)

During the whole month of August, and for some time prior thereto, the entire discharge of the several creeks which enter this section of the river was diverted and used for irrigation, so that at the time the measurements were made none of the water from these creeks reached the river except through seepage. As both the Spring Creek canal and the Charleston canal derived their supply from Spring Creek and from the seepage water from the lands irrigated under the Wasatch canal, McDonald ditch, and North Field ditch, they were treated as continuations of these systems, and not as canals deriving their supply from the river direct. In the table following the facts relative to return seepage in Provo Valley are strongly brought out.

TABLE SHOWING RETURN SEEPAGE IN PROVO VALLEY.  
(Length of section, 11 miles.)

	August 2-4		August 21-25	
	Inflow	Outflow	Inflow	Outflow
	Cu. ft. per sec.	Cu. ft. per sec.	Cu. ft. per sec.	Cu. ft. per sec.
Discharge, upper end Provo Valley-----	51.30	-----	48.37	-----
Diversions from river in section:				
Wasatch Canal and McDonald Ditch-----	21.71	-----	14.35	-----
North Field Ditch-----	19.20	-----	16.87	-----
Midway Canal -----	3.86	-----	4.52	-----
Island Ditch -----	3.03	-----	.00	-----
Discharge, lower end Provo Valley-----	99.07	-----	93.92	-----
Total -----	51.30	146.96	48.37	129.66
Gain in section-----	-----	95.66	-----	81.29

The large gain in the river's flow in passing through the valley is not entirely due to seepage water, part of the water coming from springs which are not used for irrigation and flow directly into the river. The hot mineral springs which rise on the west side of the valley near Midway are examples of the latter. The water issues from these springs, or "hot-pots" as they are locally known, at a temperature approaching boiling point. A small amount of this water is used for irrigation, but the greater part sinks in the porous "pot-rock" formation and eventually finds its way to the river.

CANYON SECTION BETWEEN PROVO VALLEY AND UTAH LAKE  
VALLEY,  
(Fourth Section.)

Irrigation in this canyon is limited to one or two acres supplied from small springs. The most important tributaries entering the river at Deer Creek, North Fork, South Fork, Bridal Veil Falls, and Pole Canyon Creek, the combined flow of which is represented as gain in the following table.

TABLE SHOWING GAIN IN FLOW OF PROVO RIVER  
In Canyon Between Provo and Utah Lake Valleys.  
(Length of section, 11 miles.)

	August 2-4		August 21-25	
	Inflow	Outflow	Inflow	Outflow
	Cu. ft. per sec.	Cu. ft. per sec.	Cu. ft. per sec.	Cu. ft. per sec.
Discharge, lower end Provo Valley	99.07		93.92	
Discharge entering Utah Lake Valley		184.00		175.01
Total	99.07	184.00	93.92	175.01
Gain in section		85.02		81.12

SECTION OF RIVER IN UTAH LAKE VALLEY.  
(Fifth Section.)

The discharge of the river into this section was measured a short distance above the mouth of the canyon, about a quarter of a mile above the head of the Provo Bench canal. The lower measurement was made about 1 mile west of Provo City. The river at this point was dry during the period of measurement so that no outflow measurement appears in the table. There being no surface inflow from any source, the gain given in the following table represents the return seepage from the various canals.

It might be supposed that the gain in the river's flow in this section would be greater than that shown in the following table, but the location of the larger canals on both sides of the river is such that the water lost by the higher canals is caught by those lower down and is thus carried out of the river's basin, so to speak, and instead of finding its way back to the river channel as seepage, makes its way into the sloughs which surround the lake.

TABLE SHOWING RETURN SEEPAGE TO PROVO RIVER,  
In Utah Lake Valley.  
(Length of section, 8 miles.)

	August 24		August 21-25	
	Inflow	Outflow	Inflow	Outflow
	Cu. ft. per sec.	Cu. ft. per sec.	Cu. ft. per sec.	Cu. ft. per sec.
Flow of river at upper gaging station-----	184.00		175.04	
Diversions from river in section:				
Provo Bench Canal-----		27.96		30.14
Roberts' Ditch-----		2.14		2.27
Parks' and Roberts' Ditch-----		4.33		3.53
West Union Canal-----		20.00		22.85
Lake Bottom Canal-----		6.09		7.89
Timpanogas Canal-----		7.80		10.38
Upper East Union Canal-----		18.14		15.77
Provo City Water System-----		8		8
East Union Canal-----		23		20.01
City Race-----		15.30		16.25
Factory Race-----		28		25.50
Tanner's Race-----		6.43		8.24
Little Dry Creek-----		7.04		7.30
River-bottom ditches-----		10.17		8
Flow of river at lower gaging station-----		.00		.00
Total -----	184.00	100.40	175.04	180.22
Gain in section-----		0.40		11.18

### SEEPAGE ALONG SEVIER RIVER.

In the Sevier River Basin between Pangutteh and the Sevier Bridge between  
Selbyo and Juab.

#### WATER ENTERING THE DIFFERENT VALLEYS.

Date.	Locality.	Source.	Quantity.
1902,			Sq. feet
August 9	Pangutteh Valley-----	Sevier River -----	40.2
August 10-11	Junction Valley-----	Sevier River ----- Mast Fork of Sevier River----- City Creek -----	27.0 10.2 4.0
	Total -----		47.2
August 11	Between Junction and Marysville -----	Sevier River ----- Teumtle Creek ----- Cottonwood Creek ----- Cottonwood West Spring -----	10.7 1.0 3.5 2.0
	Total -----		17.2

## WATER ENTERING THE DIFFERENT VALLEYS.--Continued.

Date.	Locality.	Source.	Quantity Sec.-feet
1902. August 11-13	Marysville Valley -----	Sevier River ----- Bullion Creek ----- Beaver Creek -----	38.0 12.5 2.5
	Total -----	-----	53.0
August 13-14	Sevier Valley to Rocky Ford.	Sevier River ----- Clear Creek ----- Monroe Creek ----- Thompson's Creek ----- Redbutte and Cottonwood Creeks. Water Canyon Creek ----- Spring Creek ----- Cove Creek ----- Cedar Ridge Creek -----	47.5 7.5 3.9 2 .3 .3 5.3 9.5 .5
	Total -----	-----	74.8
August 14-15	Rocky Ford to Red- mond Ford.	Sevier River ----- Rocky Ford Canal ----- Lost Creek ----- Salina Creek -----	1.5 35.0 .7 7.8
	Total -----	-----	45.0
August 15-16	Redmond Ford to Westview Bridge.	Sevier River ----- Westview Canal ----- Willow Creek ----- Sampitch River -----	15.5 4.2 .5 15.2
	Total -----	-----	35.4
Do-----	Westview Bridge to McArty's Ford.	Sevier River ----- Dover Canal ----- Warm Creek -----	18.7 10.7 2.7
	Total -----	-----	32.1

AMOUNT OF WATER DIVERTED FOR IRRIGATION IN THE DIFFERENT  
VALLEYS.

Date.	Locality.	Canal.	Quantity.
			Sec. Ft.
August 9	Panguitch Valley	East Panguitch Irrigation Co. Canal	11.9
		Long Canal Co. Canal	16.6
		East Bench Co. Canal	3.8
		Panguitch Creek	13.6
		Little Creek	.3
		McEwan Ditch	6.0
		Houston Ditch	5.0
		Tibb's Ditch	.3
		Orton's Ditch	1.9
		Peterson Ditch	2.2
		Walley Ditch	4.3
		Vactor Ditch	Dry
		Kessler Ditch	2.1
		Johnson Ditch	Dry
Total			68.0
August 10-11	Junction Valley	Miscellaneous Canals	38.7
		Junction Canal Co. upper Ditch	6.0
		Junction Canal Co. middle Ditch	4.4
		Junction Canal Co. lower Ditch	4.5
		Private Ditch	1.2
		Total	53.8
August 11	Between Junction and Marysvale	Not given	6.5
August 11-13	Marysvale Valley	do	15.0
August 13-14	Seyler Valley to Rocky Ford	Clear Creek Irrigation Canal	1.38
		Joseph City Irrigation Canal	3.85
		Wells Irrigation Canal	2.38
		Isaneson Irrigation Canal	3.03
		Monroe Irrigation Canal	7.25
		Elsinore Irrigation Canal	2.75
		Brooklin Irrigation Canal	5.50
		Riehfeld Irrigation Canal	17.50
		Anabella Irrigation Canal	11.18
		Candor Irrigation Canal	.50
		Vermilion Irrigation Canal	0.01
Total			64.30

AMOUNT OF WATER DIVERTED FOR IRRIGATION IN THE DIFFERENT VALLEYS.—Continued.

Date	Locality	Canal	Quantity
August 14-15	Rocky Ford to Redmond Ford.	Not given -----	43.5
August 15-16	Redmond Ford to Westview Bridge.	Robbins Canal ----- Westview Canal ----- Other Canals -----	8.14 4.20 15.70
	Total -----	-----	28.04
Do-----	Westview Bridge to McArty's Ford.	Not given -----	13.4
August 16	McArty's Ford to Sevier Bridge.	----- -----	None.

AMOUNT OF WATER LEAVING THE DIFFERENT VALLEYS.

Date.	Locality.	Name of River or Canal.	Quantity.
			Sec. Ft.
1902.			
August 10	Panguitch Valley -----	Seyler River -----	30.7
August 11	Junction Valley -----	do -----	10.7
Do-----	Between Junction and Marysville.	do -----	33.0
August 13	Marysville Valley -----	do -----	47.5
August 14	Seyler Valley to Rocky Ford.	do ----- Rocky Ford and Willow Bend Canal.	1.5 35.0
	Total -----	-----	36.5
August 15	Rocky Ford to Redmond Ford.	Seyler River ----- West View Canal -----	15.5 4.2
	Total -----	-----	19.7
Do-----	Redmond Ford to Westview Bridge.	Seyler River ----- Dover Canal -----	18.7 10.7
	Total -----	-----	29.4
Do-----	Westview Bridge to McArty's Ford.	Seyler River -----	22.0
August 16	McArty's Ford to Sevier Bridge.	do -----	18.5
Do-----	Panguitch to Seyler Bridge.	do -----	18.5

## RESUME.

Date	Locality	Quantity of water				Seepage
		Entering valley	Used for irrigation	Leaving valley	Leaving valley and used for irrigation	
1902,		Sec.-feet	Sec.-feet	Sec.-ft.	Sec.-feet	Sec.-feet
August 8-10	Panguitch Valley -----	46.2	68.0	30.7	98.7	52.5
August 10-11	Junction Valley -----	47.2	53.8	10.7	64.5	17.3
August 11	Between Junction and Marysville.	17.2	6.5	38.0	44.5	27.3
August 11-13	Marysville Valley -----	53.0	15.0	47.5	62.5	9.5
August 13-14	Sevier Valley to Rocky Ford -----	74.8	64.36	36.5	100.86	26.06
August 14-15	Rocky Ford to Red- mond Ford -----	45.0	43.5	19.7	63.2	18.2
August 15-16	Redmond Ford to Westview Bridge, Westview Bridge to McArty's Ford.	35.4	28.04	29.4	57.44	22.04
Do-----	McArty's Ford to Se- vier Bridge.	32.1	13.4	22.0	35.40	3.3
August 16	Panguitch to Sevier Bridge.	22.0	0.0	18.5	18.5	— 3.5
August 8-16		142.1	202.6	18.5	311.1	160.0

GAIN BY SEEPAGE OF SAN PITCH RIVER  
Between Mt. Pleasant and Moroni.  
(Distance 6 Miles.)

September 12, 1905.

Flow of river at upper station -----	18 Sec. Ft.
Flow of river at lower station -----	22 Sec. Ft.
Gain -----	4 Sec. Ft.
Per Cent -----	22

### LOSS OF WATER IN CANALS BY SEEPAGE.

From Second Biennial Report Utah State Engineer.

CACHE VALLEY.  
Logan and Richmond Canal.

Loss in 7,000 feet below headgates -----	0 Per cent.
Loss in next 41,000 feet -----	11.7 Per cent.
Total loss in 48,000 feet -----	20.7 Per cent.

Logan, Hyde Park and Smithfield Canal.

Loss in 7,200 feet below headgates -----	0.7 Per cent.
Loss in next 36,000 feet -----	10.5 Per cent.
Total loss in 44,100 feet -----	20.2 Per cent.

## LOSS OF WATER IN CANALS BY SEEPAGE.—Continued.

From Bulletin No. 26 by S. Frontier, Utah Agricultural College Experiment Station.

## Logan, Hyde Park and Smithfield Canal.

August 31, 1893.

Loss in 7,000 feet below headgates..... 44 Per cent.

Bear River Canal.—(Canal nearly empty.)

September 1-3, 1893.

Loss in 5 miles below headgates..... 6.7 Per cent.

Mountain Water Stream.—(North Ogden.)

1893.

Loss in two miles below headgates..... 49 Per cent.

Ogden Bench Canal.

June 17, 1893.

Loss in 7,000 feet below headgates..... 18 Per cent.

Davis and Weber County Canal.

July 13, 1893.

Loss in 10 miles below headgates..... 26 Per cent.

Haight Creek (East of Kaysville, Davis County.)

July 10, 1893.

Loss in 2 miles below headgates..... 53 Per cent.

Utah and Salt Lake Canal.

July 25-31, 1893.

Loss in 25 miles below headgates..... 22 Per cent.

## SAN PETE COUNTY.

September 19, 1905.—Twin Creek near Mt. Pleasant. Bed of Creek loose rock and gravel. Distance  $2\frac{1}{2}$  miles.

Discharge at upper station..... 7.3 Sec. Ft.

Discharge at lower station..... 5 " "

Loss ..... 2.3 " "

For Cont. ..... 31

September 4, 1905.—Fountain Green Canal near Fountain Green. Canal runs through lime formation, favorable for small loss. Distance, 1.5 miles.

Discharge at upper station..... 12.4 Sec. Ft.

Discharge at lower station..... 12 " "

Loss ..... 0.4 " "

For Cont. ..... 3

September 12, 1905.—Moroni Upper Canal, near Moroni. Distance, 7 miles.

Discharge at upper station..... 0.4 Sec. Ft.

Discharge at lower station..... 4.6 " "

Loss ..... 1.8 " "

For Cont. ..... 30

September 16, 1905.—Canal Creek near Spring City. Canal bed rock and gravel. Distance 3 miles.

Discharge at upper station..... 2.8 Sec. Ft.

Discharge at lower station..... 2.2 " "

Loss ..... 0.6 " "

For Cont. ..... 20

September 18, 1905.—Oak Creek Canal near Spring City. Distance,  $2\frac{1}{2}$  miles.

Discharge at upper station..... 4.0 Sec. Ft.

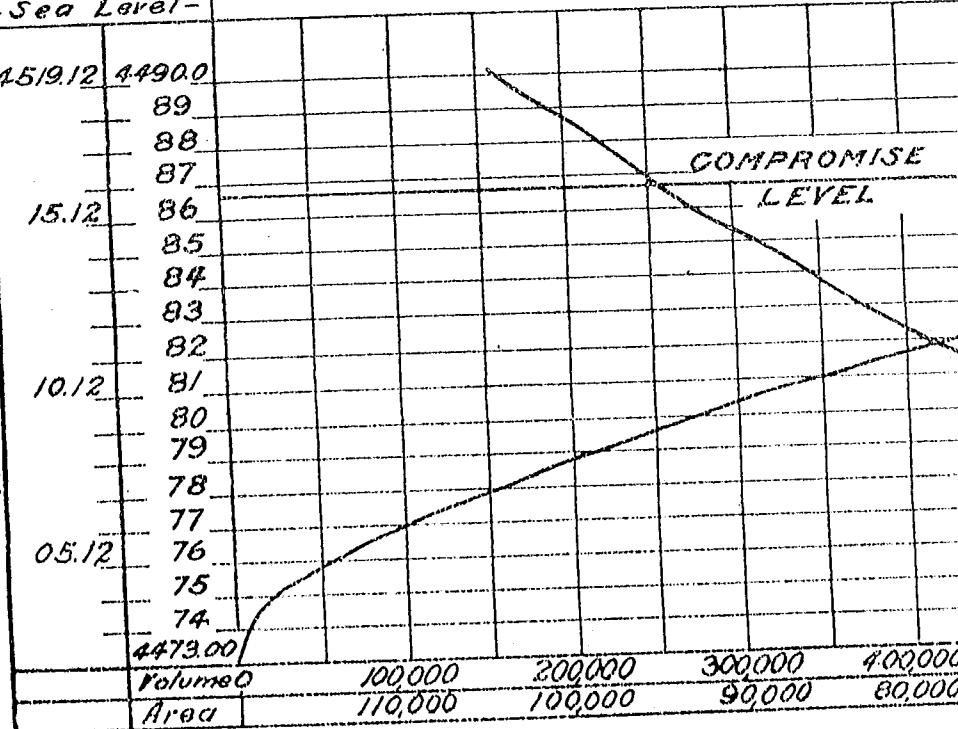
Discharge at lower station..... 4.4 " "

Loss ..... 0.5 " "

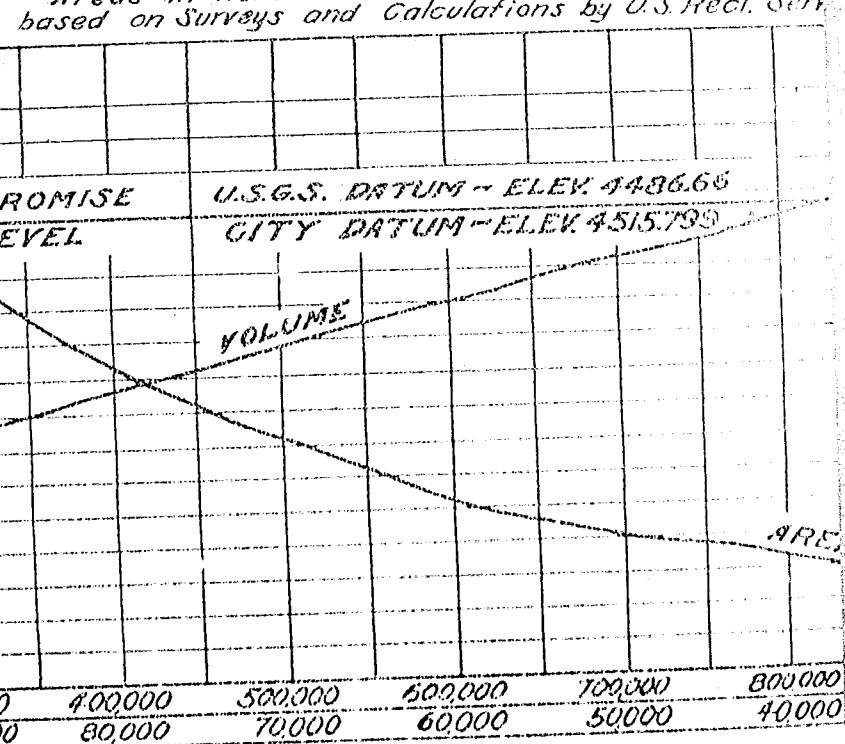
For Cont. ..... 10

CITY DATUM	U.S.R.S. DATUM
<i>Elevation of Lake Surface above -Sea Level-</i>	
4519.12	4490.0
	89
	88
	87
15.12	86
	85
	84
	83
	82
10.12	81
	80
	79
	78
05.12	77
	76
	75
	74
	4473.00
Volume	
Area	110,000

DIAGRAM SHOWING AREAS AND  
Lake Elevations in Feet above Sea Level  
Areas  
Diagram based on



**AREAS AND VOLUMES OF UTAH LAKE AT DIFFERENT  
ELEVATIONS**  
above Sea Level, U.S.G.Survey Datum, "Compromise Level".  
Areas in Acres --- Volumes in Acre Feet  
based on Surveys and Calculations by U.S.Recl. Serv.

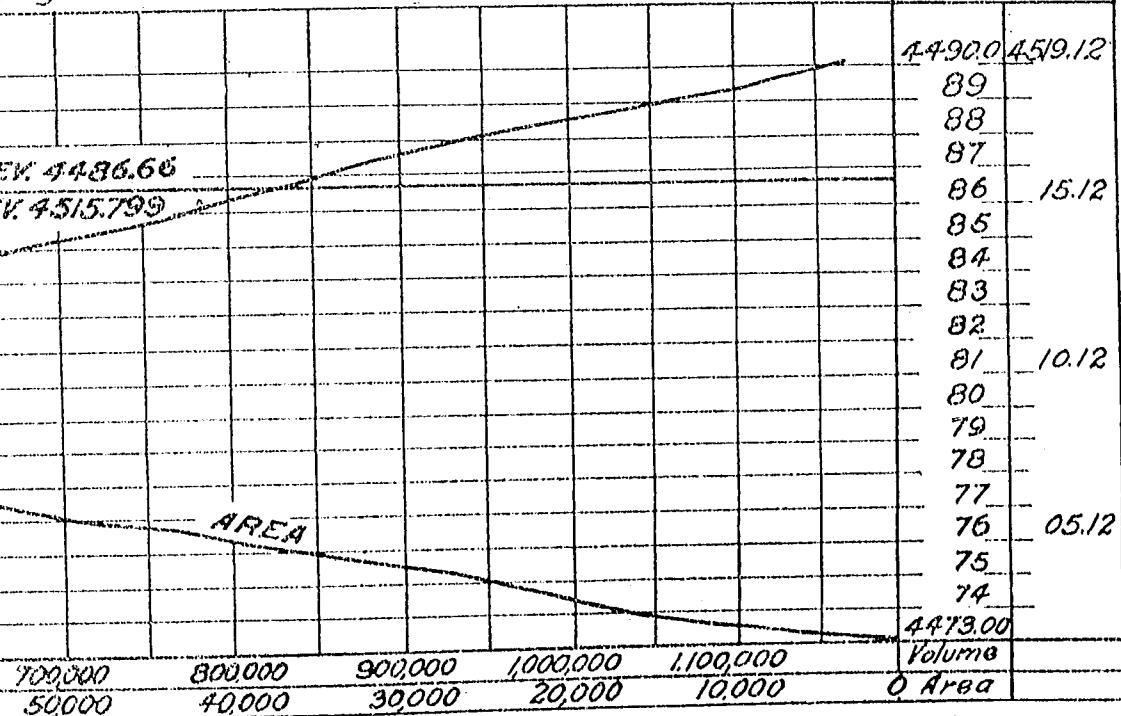


# Lake at Different Water Levels

Compromise Level = 4486.66

Acre Feet

by U.S. Rec. Service



## DISCHARGE OF SPANISH FORK CANALS.

The following tables show the daily discharges of the Spanish Fork canals and River and the gain or loss by seepage along the river between the river gaging station and the heads of the canals.

### DAILY DISCHARGE,

In Second Feet, of Spanish Fork Canals and River for 1904.

River measured at mouth of canyon at U. S. R. S. Gaging Station, above all diversions.

Day.	East Bench Canal.	Salem Canal.	Mill Race.	South Field Canal.	Total of Canals.	Disch. of River.	Diff. of Canals and River.	Per Cent. Loss.
<b>June.</b>								
21	4	17	53	28	102	127	25 Loss	20
22	6	20	52	29	107	120	13 "	10
25	5	17	47	23	92	111	19 "	17
<b>July.</b>								
1	7	16	52	26	101	120	19 "	16
2	6	17	46	22	91	111	20 "	18
5	6	15	41	20	82	104	22 "	21
6	6	17	41	16	80	102	22 "	21
7	12	19	49	24	101	114	10 "	9
9	8	18	44	25	95	102	7 "	7
11	9	17	37	22	85	95	10 "	10
12	6	16	42	23	87	95	8 "	8
14	7	15	38	21	81	88	7 "	8
18	7	13	31	19	70	83	13 "	15
23	6	12	30	18	72	80	8 "	10
26	6	13	35	10	73	83	10 "	12
27	7	13	35	18	73	83	10 "	12
29	6	13	35	21	75	88	13 "	15
<b>Aug.</b>								
1	6	12	33	18	60	86	17 Loss	20
4	5	12	33	16	66	72	6 "	8
5	5	10	32	17	61	72	8 "	11
8	5	11	30	17	63	67	4 "	6
10	6	10	29	17	62	70	8 "	11
11	6	10	31	19	60	72	3 "	4
12	6	13	33	18	70	86	16 "	18
15	7	13	34	19	73	78	5 "	6
16	9	13	34	18	74	78	4 "	5
17	7	13	36	21	77	83	6 "	7
19	5	12	34	18	49	72	3 "	4
20	7	11	31	17	60	72	3 "	4
22	7	12	35	18	72	72	0 "	0
23	7	12	33	17	60	72	3 "	4
24	6	12	33	19	70	75	5 "	6
27	6	13	34	21	74	74	0 "	0
30	7	14	37	18	70	80	10 "	11
31	6	12	33	18	60	74	5 "	6

## DAILY DISCHARGE.

In Second Feet, of Spanish Fork Canals and River for 1904.

River measured at mouth of canyon at U. S. R. S. Gaging Station above all diversions.

Day.	East Bench Canal.	Salem Canal.	Mill Race.	South Field Canal.	Total of Canals.	Disch. of River.	Diff. of Canals and River.	Per Cent. Loss.
Sept.								
3	5	11	32	17	65	70	5 Loss	7
5	6	10	29	16	61	70	9 "	13
6	5	10	29	16	60	67	7 "	10
7	5	10	27	15	57	67	10 "	15
10	5	10	29	16	60	67	7 "	10
12	5	10	27	16	58	67	9 "	13
14	5	10	29	15	60	64	5 "	8
15	5	10	29	16	60	67	7 "	10
Average for period June 21 to Sept.								
15 inclusive					74	84	10 "	12

## DAILY DISCHARGE.

In Second Feet, of Spanish Fork Canals and River for 1905.

River measured at mouth of canyon at U. S. R. S. Gaging Station above all diversions.

Day.	East Bench Canal.	Salem Canal.	MH Race.	South Field Canal.	Total of Canals.	Disch. of River.	Diff. of Canals and River.	Per Cent. Gain.
<b>June.</b>								
5	44	31	56	48	179	258	-- Gain	--
7	44	30	55	50	179	224	-- "	--
8	43	32	43	54	172	---	-- "	--
9	28	32	59	33	152	100	-- "	--
10	28	29	56	31	144	188	-- "	--
12	28	28	47	33	136	163	-- "	--
13	27	25	45	31	128	147	-- "	--
17	20	19	43	38	120	110	-- "	--
19	15	18	48	26	107	115	-- "	--
20	15	18	51	28	112	113	-- "	--
21	15	18	53	27	113	111	-2 "	-2
24	14	16	43	24	97	81	16 "	20
26	13	15	42	23	93	67	26 "	39
28	12	13	38	20	83	65	18 "	28
29	11	13	35	19	78	62	16 "	26
<b>July.</b>								
1	11	12	33	18	74	55	19 "	34
3	11	12	34	19	76	54	22 "	40
5	7	11	31	18	67	47	20 "	42
6	8	12	32	19	71	49	22 "	44
7	7	12	33	18	70	50	20 "	40
11	6	10	27	16	59	47	12 "	25
13	5	10	26	14	55	43	12 "	28
15	5	11	33	17	66	46	20 "	43
17	5	10	29	16	60	47	13 "	28
18	7	11	29	16	68	44	19 "	43
20	6	10	28	15	60	43	16 "	37
22	5	10	27	15	57	43	14 "	32
25	5	9	24	13	51	43	8 "	18
27	5	8	23	13	49	44	5 "	11
28	3	8	23	13	47	44	3 "	7
29	4	9	25	14	52	45	7 "	15
31	4	9	27	14	51	46	8 "	18

## DAILY DISCHARGE.

In Second Feet, of Spanish Fork Canals and River for 1905.

River measured at mouth of canyon at U. S. R. S. Gaging Station above all diversions.

Day.	East Bench Canal.	Salem Canal.	Mill Race.	South Field Canal.	Total of Canals.	Disch. of River.	Diff. of Canals and River.	Per Cent. Gain.
Aug.								
1	4	9	26	14	53	48	5 Gain	10
2	4	9	26	14	53	46	7 "	15
3	4	10	26	14	54	54	0 "	0
4	4	9	26	14	53	48	5 "	10
5	4	9	26	14	53	48	5 "	10
6	4	9	26	14	53	48	5 "	10
7	4	8	22	12	46	42	4 "	10
8	4	8	22	12	46	42	4 "	10
9	3	7	20	11	41	42	1 Loss	*2
10	6	10	29	15	60	46	14 Gain	30
11	9	14	37	20	80	68	12 "	18
12	5	10	24	14	53	52	1 "	2
13	5	10	26	14	55	49	6 "	12
14	4	10	28	14	56	49	7 "	14
15	4	10	27	14	55	46	9 "	18
16	4	9	24	13	50	44	6 "	13
17	4	9	24	13	50	44	6 "	13
18	4	8	24	13	49	44	5 "	11
19	4	9	24	13	50	41	9 "	22
20	4	8	23	13	48	41	7 "	17
21	4	8	23	13	48	41	7 "	17
22	4	8	23	13	48	38	10 "	20
23	4	8	23	13	48	38	10 "	20
25	9	11	28	17	65	65	--	20
26	7	10	29	15	61	53	8 "	15
27	5	10	27	14	56	58	2 Loss	*15
28	4	10	25	13	52	62	10 "	*16
29	4	9	25	14	52	50	2 Gain	4
30	4	9	26	15	54	47	7 "	15
31	4	10	26	14	54	43	11 "	25
Sept.								
1	3	0	26	13	51	45	6 "	13
2	4	9	25	13	51	46	6 "	13
3	4	10	26	13	52	45	7 "	15
4	4	10	27	14	55	+80	--	4
5	4	10	27	14	55	53	2 "	4
6	3	10	27	15	55	50	5 "	10
7	6	11	30	16	63	50	4 "	7
8	6	11	30	17	64	53	11 "	20
9	5	10	29	16	60	52	8 "	15
10	3	10	27	14	54	52	2 "	4
11	3	10	27	14	54	52	2 "	4
12	4	10	27	14	55	52	3 "	5
13	3	10	27	14	54	52	2 "	4
14	3	10	27	14	54	52	2 "	4
15	3	0	26	14	52	52	0 "	0

\*Loss.

†Rain Storm.

## DAILY DISCHARGE.

In Second Feet, of Spanish Fork Canals and River for 1905.—Continued.

River measured at mouth of canyon at U. S. R. S. Gaging Station above all diversions.

Day.	East Bench Canal.	Salem Canal.	Mill Race.	South Field Canal.	Total of Canals.	Disch. of River.	Diff. of Canals and River.	Per Cent. Gain.
Sept.								
16	3	9	25	13	50	52	2 Loss	4
17	3	10	25	13	51	44	7 gain	15
18	3	10	25	13	51	44	7 "	15
19	3	9	25	14	51	48	3 "	6
20	3	9	25	14	51	48	3 "	6
21	3	9	24	13	49	45	4 "	9
22	3	9	24	13	49	45	4 "	9
23	3	9	23	13	48	45	2 "	1
Average for period June 5 to Sept. 23, Inclusive						50	8 "	15

\*Loss.

## DAILY DISCHARGE.

In Second Feet, of Spanish Fork Canals and River for 1906.

River measured at mouth of canyon at U. S. R. S. Gaging Station above all diversions.

Day.	East Bench Canal.	Salem Canal.	Mill Race.	South Field Canal.	Total of Canals.	Disch. of River.	Diff. of Canals and River.	Per Cent. Loss.
May.								
24	94	38	78	54	204	725	*--	--
25	95	--	--	--	--	--	--	--
26	96	40	74	53	203	505	--	--
27	--	--	--	--	--	--	--	--
28	--	39	80	59	--	--	--	--
29	--	--	--	--	--	--	--	--
30	--	--	--	--	--	--	--	--
31	86	25	68	45	224	475	--	--
June.								
1	--	--	--	--	--	--	--	--
2	95	37	49	53	234	400	--	--
3	--	--	--	--	--	--	--	--
4	--	--	--	--	--	--	--	--
5	97	44	60	56	263	275	--	--
6	--	--	--	--	--	--	--	--
7	77	22	82	45	226	305	--	--
8	--	--	--	--	--	--	--	--
9	92	32	75	53	252	300	--	--
10	--	--	--	--	--	--	--	--
11	--	--	--	--	--	--	--	--
12	92	30	76	61	253	*300	--	--
13	--	--	71	--	--	--	--	--
14	--	27	76	65	--	--	--	--
15	72	--	--	--	--	--	--	--

\*Some water was going into Utah Lake from Spanish Fork River till June 12.

## DAILY DISCHARGE.

In Second Feet, of Spanish Fork Canals and River for 1906.—Continued.

River measured at mouth of canyon at U. S. R. S. Gaging Station above all diversions.

Day.	East Bench Canal.	Salem Canal.	Mill Race.	South Field Canal.	Total of Canals.	Disch. of River.	Diff. of Canals and River.	Per Cent. Loss.
June.								
16	64	25	--	52	--	--	-- Loss	--
17	--	--	--	--	--	--	-- "	--
18	43	36	61	54	194	245	-- "	--
19	41	35	58	52	186	215	29 "	13
20	39	33	54	51	177	205	28 "	14
21	41	31	52	40	164	185	21 "	11
22	40	30	49	36	155	175	20 "	11
23	37	30	46	36	149	175	26 "	15
24	36	31	46	35	148	175	17 "	10
25	36	31	45	35	147	165	18 "	11
26	36	30	44	34	144	165	21 "	12
27	35	30	43	34	142	165	23 "	13
28	37	33	48	37	165	165	10 "	6
29	37	32	48	37	154	165	11 "	7
30	34	30	43	34	141	165	24 "	16
July.								
1	33	28	42	32	135	165	20 "	12
2	32	27	40	31	130	145	15 "	11
3	31	26	38	29	124	145	21 "	13
5	17	22	61	34	134	145	11 "	8
6	17	23	62	34	130	135	-- "	0
7	16	22	60	32	129	130	-- "	0
8	16	21	58	32	127	130	9 "	2
9	15	20	56	31	122	130	8 "	6
10	15	20	55	30	120	130	10 "	7
11	13	20	54	30	117	130	13 "	10
12	13	20	54	30	117	130	13 "	10
18	13	21	57	31	122	130	8 "	6
19	13	20	54	30	117	125	8 "	6
20	13	19	51	28	111	120	9 "	7
21	13	10	52	28	112	120	8 "	7
22	12	10	52	28	111	120	9 "	7
23	10	10	51	28	108	120	12 "	10
24	10	18	50	27	105	135	30 "	10
25	10	18	49	27	104	120	16 "	13
26	10	18	49	27	104	115	11 "	9
27	10	17	48	26	101	115	14 "	12
28	10	17	48	26	101	115	14 "	12
29	9	17	47	26	99	115	16 "	14
30	9	17	46	25	97	115	18 "	16
31	9	16	46	25	95	110	15 "	13

\*Some water was going into Utah Lake from Spanish Fork River till June 12.  
All water of river not used till about June 15.

## DAILY DISCHARGE.

In Second Feet, of Spanish Fork Canals and River for 1906.—Continued.

River measured at mouth of canyon at U. S. R. S. Gaging Station above all diversions.

Day.	East Bench Canal.	Salem Canal.	Mill Race.	South Field Canal.	Total of Canals.	Disch. of River.	Diff. of Canals and River.	Per Cent. Loss.
Aug.								
1	9	16	45	25	95	115	20 Loss	17
2	9	16	43	23	91	110	19 "	17
3	8	15	42	23	88	110	22 "	20
4	8	15	41	22	86	110	24 "	22
5	8	14	39	21	82	105	23 "	22
6	8	14	38	21	81	105	24 "	23
7	8	14	38	21	81	100	19 "	19
8	7	13	37	20	77	100	23 "	23
9	8	14	38	21	81	100	19 "	19
10	8	14	38	21	81	100	19 "	19
11	8	14	39	21	81	100	19 "	19
12	8	14	39	20	81	100	19 "	19
13	8	15	40	22	85	100	15 "	15
14	9	16	43	24	92	110	18 "	16
15	8	15	40	22	85	105	20 "	19
16	8	14	39	21	82	105	23 "	22
17	8	14	38	21	71	105	24 "	23
18	8	14	37	20	79	105	26 "	25
19	11	21	50	32	123	135	12 "	9
20	12	23	53	34	132	115	17 Gain	*16
21	10	18	51	28	107	120	13 Loss	11
22	9	16	44	24	93	110	17 "	15
23	8	16	42	23	88	105	17 "	15
24	8	16	42	21	85	105	20 "	19
25	8	15	41	22	86	105	19 "	18
26	8	15	40	21	81	105	21 "	20
27	8	14	39	21	82	105	23 "	22
28	8	14	39	21	82	105	23 "	22
29	8	14	39	21	82	105	23 "	22
30	8	15	42	25	90	110	20 "	18
31	8	15	42	25	90	110	20 "	18
Sept.								
1	9	17	46	25	97	105	8 "	8
2	9	17	46	25	97	120	23 "	19
3	9	17	47	26	99	115	16 "	14
4	8	15	42	23	88	105	17 "	16
5	8	15	41	22	86	105	19 "	18
6	8	14	39	21	82	105	23 "	22
7	8	14	39	21	82	105	23 "	22
8	8	14	39	21	82	105	23 "	22
9	8	14	38	21	81	105	24 "	23
10	8	14	38	21	81	105	24 "	23
11	8	14	38	21	81	100	19 "	19
12	7	13	37	20	77	100	23 "	23
13	7	13	36	20	76	100	24 "	24
14	7	13	36	20	76	105	29 "	28
15	8	15	42	23	88	105	17 "	16
16	8	15	42	23	88	115	27 "	23

\*Gain.

## DAILY DISCHARGE.

In Second Feet, of Spanish Fork Canals and River for 1906.—Continued.

River measured at mouth of canyon at U. S. R. S. Gaging Station above all diversions.

Day.	East Bench Canal.	Salem Canal.	Mill Race.	South Field Canal.	Total of Canals.	Disch. of River.	Diff. of Canals and River.	Per Cent. Loss.
<b>Sept.</b>								
17	8	15	42	23	88	105	17 Loss	15
18	8	14	39	21	82	105	23 "	22
19	8	14	39	21	82	105	23 "	22
20	8	14	38	21	81	100	19 "	19
21	8	14	38	21	81	100	19 "	19
22	8	14	38	21	81	100	19 "	19
23	7	13	37	20	77	100	23 "	23
24	7	13	35	19	74	100	26 "	26
25	7	13	36	20	76	100	24 "	24
26	7	13	37	20	77	100	23 "	23
27	8	14	38	21	81	100	19 "	19
28	7	13	35	19	74	100	26 "	26
29	7	13	35	19	74	100	26 "	26
Average for period May 24 to Sept.								
30, inclusive -----					103	120	17 "	15

It will be observed that the difference between the measured flow of the river and of the canals for 1904 and 1906 show average losses of 12 per cent. and 15 per cent. respectively, whereas the 1905 record shows an average gain of 15 per cent.

The reason for this is not known, but the records for 1904 and 1906 probably show the correct conditions.

## DUTY OF WATER.

### IN CACHE VALLEY DURING 1896.

(From Bulletin No. 50, Utah Agricultural College Experiment Station.)

lands irrigated by Logan River Canals—	
Total area under investigation-----	12,920 acres
Average duty of water during June-September, inclusive----	.85 acres per sec. ft.
Average duty of water during June-September, inclusive, over entire Cache Valley area-----	.100 acres per sec. ft.

During 1890.—(From Second Biennial Report, Utah State Engineer.)

Total area under investigation-----	2,895 acres
Average duty of water June-September, inclusive,-----	.65 acres per sec. ft.

### FROM BIG COTTONWOOD CREEK NEAR SALT LAKE CITY, UTAH.

(Second Biennial Report, Utah State Engineer.)

Year.	Area.	Duty.
1890	69 acres-----	.73 acres per sec. ft.
1900	58½ acres-----	.86½ acres per sec. ft.

### FROM PROVO RIVER.

(Bulletin 124, U. S. Dept. Agriculture.)

Year.	Duty.
1900 -----	.09 acres per sec. ft.
1901-02 -----	.58½ acres per sec. ft.

**DATA FOR THE YEAR 1906, TOO LATE  
TO BE PLACED IN ITS REGULAR  
ORDER.**

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## Bear Lake at Fishaven, Idaho.

MEAN DAILY GAGE HEIGHT  
Of Bear Lake at Fishaven, Idaho, for 1906.

Day.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
1												
2							3.4					
3												
4												
5		1.9			3.0							
6												
7	1.85			2.4								
8			2.05									
9						3.5						
10												
11												
12					3.2							
13												
14		1.05		2.0								
15												
16						3.55						
17	1.0											
18												
19					3.3							
20												
21				2.8								
22												
23		2.0				3.5						
24	1.0											
25												
26					3.4							
27												
28		2.0		2.8								
29												
30						3.5						
31												

## Bear River at Dingle, Idaho.

### DISCHARGE MEASUREMENTS Of Bear River at Dingle, Idaho, for 1906.

Date	Hydrographer	Width Feet	Area of Sec. Square feet	Mean Veloc. Ft. per Sec.	Gage height Feet	Discharge Sec.-feet
Feb. 25-----	W. G. Swendsen-----	88	159	1.33	4.61	212
May 30-----	H. S. Kleinschmidt-----	122	608	1.33	4.61	212
Aug. 17-----	Phos. Grlevy, Jr.-----	107	188	1.47	3.00	276

### MEAN DAILY GAGE HEIGHT Of Bear River at Dingle, Idaho, for 1906.

Day.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
1-----	3.5	-----	5.5	5.0	7.55	5.45	4.3	4.4	4.0	4.0	4.2	4.2
2-----	-----	-----	5.2	5.0	7.55	5.45	4.3	4.4	4.0	4.0	4.2	4.2
3-----	3.7	-----	-----	5.2	4.9	7.0	5.4	4.25	4.4	3.95	4.0	4.1
5-----	-----	-----	-----	5.2	5.0	7.45	5.3	4.2	4.5	3.95	3.95	4.0
6-----	3.1	-----	-----	5.0	5.2	7.2	5.4	4.2	4.55	3.95	4.0	4.0
7-----	-----	3.1	-----	5.2	5.2	7.0	5.4	4.2	4.55	3.95	4.0	4.0
8-----	-----	4.4	-----	5.3	5.2	7.0	5.4	4.2	4.5	3.9	4.0	4.0
9-----	-----	-----	5.0	5.2	6.05	5.1	4.2	4.4	3.9	4.0	4.0	4.0
10-----	3.3	3.4	-----	5.0	5.3	6.0	5.2	-----	4.4	3.9	4.0	4.0
11-----	-----	-----	5.0	5.4	6.05	5.1	4.1	-----	3.9	4.0	4.0	4.0
12-----	-----	4.0	5.1	5.55	6.8	5.1	4.05	4.75	3.9	4.0	4.05	4.05
13-----	-----	5.2	5.8	6.0	5.1	4.0	4.2	3.9	3.05	4.1	4.1	4.1
14-----	3.7	4.0	-----	5.1	0.0	6.55	5.2	4.0	4.2	3.9	4.0	4.05
15-----	-----	-----	5.1	0.2	0.0	5.2	4.0	4.2	3.9	4.0	4.2	4.2
16-----	-----	4.0	5.0	0.4	0.0	5.1	3.0	4.2	3.9	4.0	4.3	4.3
17-----	4.0	-----	5.0	0.7	-----	5.3	-----	4.2	3.9	4.0	4.0	4.0
18-----	-----	5.0	0.7	0.75	5.2	3.0	4.2	3.9	4.0	4.2	4.2	4.2
19-----	4.5	4.5	5.0	0.55	0.8	5.0	3.05	4.2	3.9	3.95	4.1	4.1
20-----	4.0	-----	5.2	0.45	0.8	4.9	4.1	4.15	3.9	3.8	4.1	4.1
21-----	-----	-----	5.2	0.3	0.8	4.75	4.2	4.15	3.9	3.95	4.1	4.1
22-----	4.0	4.0	5.2	0.3	0.8	4.7	4.3	4.15	3.9	4.5	4.1	4.1
23-----	3.8	-----	5.3	0.25	0.7	4.7	4.5	4.1	3.9	4.1	4.2	4.2
24-----	-----	-----	5.3	0.3	0.5	4.7	4.4	4.1	3.8	-----	4.0	4.0
25-----	4.0	4.7	5.3	0.45	0.8	4.5	4.45	4.1	3.85	4.2	4.2	4.2
26-----	-----	-----	5.3	0.6	0.15	4.5	4.6	4.0	3.9	4.2	4.1	4.1
27-----	-----	-----	5.3	0.8	0.1	4.5	4.05	-----	3.95	3.9	4.1	4.1
28-----	3.65	4.6	4.4	5.25	7.0	5.05	4.5	4.6	4.0	3.9	3.85	4.1
29-----	-----	-----	5.2	7.2	5.7	4.4	4.5	4.0	3.9	3.9	4.1	4.1
30-----	-----	5.6	5.1	7.4	5.6	4.3	4.45	4.0	3.95	3.0	4.1	4.1
31-----	-----	5.05	-----	7.5	-----	4.3	4.4	-----	4.00	-----	4.1	4.1

**STATION RATING TABLE**  
For Bear River at Dingle, Idaho, from April 1 to December 31, 1906.

Gage height. Feet	Discharge. Sec-ft										
.00	4.00	.295	5.00	.740	6.00	1375	7.00	2275	.00		
.05	.05		.05		.05		.05		.05		
3.10	60	.10	330	.10	790	.10		.10		.10	
.15		.15		.15		.15		.15		.15	
.20	75	.20	370	.20	840	.20	1650	.20	2455	.20	
.25		.25		.25		.25		.25		.25	
.30	90	.30	410	.30	895	.30		.30		.30	
.35		.35		.35		.35		.35		.35	
.40	110	.40	455	.40	955	.40	1730	.40	2635	.40	
.45		.45		.45		.45		.45		.45	
.50	135	.50	495	.50	1020	.50		.50		.50	
.55		.55		.55		.55		.55		.55	
.60	160	.60	510	.60	1085	.60	1910	.60	2815	.60	
.65		.65		.65		.65		.65		.65	
.70	190	.70	590	.70	1155	.70		.70		.70	
.75		.75		.75		.75		.75		.75	
.80	225	.80	635	.80	1230	.80	2090	.80	2995	.80	
.85		.85		.85		.85		.85		.85	
.90	260	.90	685	.90	1300	.90		.90		.90	
.95		.95		.95		.95		.95		.95	

**ESTIMATED MONTHLY DISCHARGE**  
Of Bear River at Dingle, Idaho, for 1906.

MONTH	Discharge in Second-Feet			Total in Acre-Feet
	Maximum	Minimum	Mean	
January				150 0,200
February				345 17,500
March				520 32,000
April	1020	740	826	40,000
May	2720	685	1480	91,000
June	2820	1080	2050	122,000
July	988	410	732	45,000
August	605	242	385	23,700
September	517	285	380	23,100
October	205	225	206	16,400
November	495	225	300	17,800
December	410	205	328	19,000
The year			615	460,300

## Bear River near Preston, Idaho

LIST OF DISCHARGE MEASUREMENTS  
Of Bear River near Preston, Idaho, for 1906.

Date	Hydrographer	Width Feet	Area of Sec. Square feet	Mean Veloc. Ft. per Sec.	Gage height Feet	Discharge Sec.-feet
Feb. 24-----	W. G. Swendsen-----	184	320	1.83	1.27	584
April 12-----	H. S. Kleinschmidt-----	198	695	3.51	3.41	2450
May 23-----	Thos. Grieve, Jr.-----	201	772	4.01	3.79	3110
July 8-----	Thos. Grieve, Jr.-----	191	397	1.73	1.54	687

MEAN DAILY GAGE HEIGHT  
Of Bear River near Preston, Idaho, for 1906.

Day.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
1-----		1.40	1.25	2.70	3.20	4.45	2.87	1.38	1.85	1.30	1.30	1.30
2-----		1.35	1.20	2.70	3.12	4.40	2.68	1.30	1.85	1.05	1.55	1.35
3-----		1.35	1.20	2.55	2.95	4.40	2.58	1.28	1.85	1.04	1.55	1.36
4-----		1.30	1.20	2.50	3.00	4.42	2.52	1.22	1.80	1.04	1.55	1.07
5-----		1.40	1.20	2.58	3.00	4.48	2.50	1.20	1.80	1.04	1.55	1.07
6-----	2 00	1.35	1.22	2.62	2.95	4.70	2.42	1.15	1.75	1.04	1.55	1.07
7-----		1.52	1.22	2.00	2.00	4.08	2.32	1.10	1.75	1.04	1.55	1.07
8-----		1.68	1.25	3.25	2.00	4.58	2.22	1.10	1.75	1.24	1.55	1.07
9-----		1.40	1.30	3.42	2.00	4.50	2.30	1.05	1.75	1.45	1.55	1.07
10-----		1.20	1.30	3.00	2.00	4.48	2.28	1.00	1.05	1.45	1.55	1.07
11-----		1.12	1.30	3.00	2.00	4.38	2.22	1.00	1.75	1.24	1.55	1.07
12-----	3 00	1.05	1.30	3.40	2.00	4.25	2.18	1.00	1.70	1.05	1.55	1.07
13-----		1.05	1.30	3.40	3.28	4.12	2.10	0.95	1.05	1.01	1.55	1.07
14-----		1.05	1.30	3.52	3.40	4.05	2.10	0.90	1.08	1.04	1.55	1.07
15-----		1.05	1.30	3.05	3.82	4.00	2.12	0.90	1.70	1.04	1.55	1.07
16-----		1.12	1.30	3.70	3.88	3.05	2.08	0.85	1.00	1.04	1.55	1.07
17-----		1.20	1.35	2.83	3.80	3.85	2.00	0.85	1.00	1.04	1.55	1.07
18-----		1.20	1.35	3.72	3.80	3.80	1.05	0.85	1.00	1.04	1.07	1.07
19-----		1.38	1.00	3.70	3.80	3.72	1.81	0.85	1.30	1.01	1.07	1.07
20-----		1.00	1.35	1.00	3.02	3.80	3.08	1.80	0.85	1.55	1.04	1.07
21-----		1.00	1.35	1.40	3.00	3.80	3.52	1.75	0.90	1.55	1.04	1.07
22-----		1.02	1.30	1.40	3.52	3.80	3.32	1.70	0.95	1.30	1.01	1.07
23-----		1.35	1.25	1.55	3.50	3.80	3.30	1.05	1.02	1.05	1.01	1.07
24-----		1.30	1.25	1.00	3.50	3.85	3.30	1.00	1.05	1.05	1.04	1.07
25-----		1.25	1.25	2.25	3.45	4.00	3.32	1.00	1.00	1.05	1.01	1.07
26-----		1.30	1.25	2.45	3.42	4.20	3.28	1.00	1.08	1.05	1.04	1.07
27-----		1.35	1.25	1.00	3.40	4.42	3.18	1.00	1.72	1.05	1.01	1.07
28-----		1.40	1.75	1.02	3.32	4.52	3.08	1.58	1.87	1.05	1.04	1.05
29-----		1.30	1.05	3.20	4.60	3.88	1.48	1.85	1.55	1.01	1.05	1.41
30-----		1.28	1.08	3.20	4.60	3.88	1.48	1.85	1.55	1.04	1.05	1.36
31-----		1.40	2.20	4.52	-----	1.40	1.85	-----	1.04	-----	1.65	

**STATION RATING TABLE**  
For Bear River at Preston, Idaho, from Jan. 1 to Dec. 31, 1906.

Gage height		Discharge		Gage height		Discharge		Gage height		Discharge		Gage height		Discharge	
Feet	Sec-ft	Feet	Sec-ft	Feet	Sec-ft	Feet	Sec-ft	Feet	Sec-ft	Feet	Sec-ft	Feet	Sec-ft	Feet	Sec-ft
.00		1.00	328	2.00	935	3.00	1990	4.00	3370	.00					
.05		.05		.05		.05		.05		.05		.05		.05	
.10		.10	371	.10	1020	.10		.10		.10		.10		.10	
.15		.15		.15		.15		.15		.15		.15		.15	
.20		.20	418	.20	1110	.20	2260	.20	3800	.20		.20		.20	
.25		.25		.25		.25		.25		.25		.25		.25	
.30		.30	468	.30	1205	.30		.30		.30		.30		.30	
.35		.35		.35		.35		.35		.35		.35		.35	
.40		.40	522	.40	1300	.40	2540	.40	4140	.40		.40		.40	
.45		.45		.45		.45		.45		.45		.45		.45	
.50	158	.50	580	.50	1400	.50		.50		.50		.50		.50	
.55		.55		.55		.55		.55		.55		.55		.55	
.60	186	.60	642	.60	1510	.60	2840	.60	4480	.60		.60		.60	
.65		.65		.65		.65		.65		.65		.65		.65	
.70	217	.70	708	.70	1630	.70		.70		.70		.70		.70	
.75		.75		.75		.75		.75		.75		.75		.75	
.80	251	.80	779	.80	1750	.80	3150	.80		.80		.80		.80	
.85		.85		.85		.85		.85		.85		.85		.85	
.90	288	.90	855	.90	1870	.90		.90		.90		.90		.90	
.95		.95		.95		.95		.95		.95		.95		.95	

**ESTIMATED MONTHLY DISCHARGE**  
Of Bear River near Preston, Idaho, for 1906.  
(Drainage area, 4,500 square miles.)

MONTH	Discharge in Second-Foot			Total in Acre-feet	Run-off	
	Maximum	Minimum	Mean		Sec. ft. per sq. mile	Depth inches
January	655	443	523	32,200	0.116	.13
February	605	350	450	25,500	.102	.11
March	1160	418	607	37,300	.135	.16
April	3180	1400	2430	145,000	.510	.00
May	4480	1870	2870	170,000	.038	.74
June	4050	1850	3350	190,000	.744	.83
July	2430	522	1020	62,700	.227	.20
August	817	270	428	26,300	.005	.11
September	817	350	603	35,000	.134	.16
October	551	345	398	22,000	.082	.09
November	611	350	400	29,500	.110	.12
December	744	358	420	25,800	.093	.11
The year	4050	270	1180	818,000	.262	.340

## Bear River near Collinston, Utah.

DISCHARGE MEASUREMENTS  
Of Bear River near Collinston, Utah, in 1906.

Date	Hydrographer	Width Feet	Area of Sec. Square feet	Mean Veloc. Ft. per Sec.	Gage height Feet	Discharge Sec.-feet
Feb. 22	W. G. Swendsen	272	598	2.49	2.05	1490
May 23	Thos. Grieve, Jr.	288	1120	3.95	4.30	4420
June 20	Thos. Grieve, Jr.	290	1180	3.95	4.35	4660
July 26	Thos. Grieve, Jr.	268	305	2.03	1.25	620

MEAN DAILY GAGE HEIGHT  
Of Bear River near Collinston, Utah, for 1906.

Day	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
1	1.35	1.4	1.85	3.05	3.8	5.75	3.15	—	2.1	—	—	1.9
2	1.45	1.75	3.4	3.75	5.85	3.0	—	—	—	—	1.85	—
3	1.4	1.45	1.7	3.5	3.5	5.65	2.85	—	—	—	—	—
4	1.4	1.45	1.6	3.25	3.8	5.45	2.7	—	—	—	—	—
5	1.4	1.45	1.05	3.05	3.55	5.5	2.55	—	—	—	—	—
6	—	1.5	1.05	3.1	3.6	5.5	2.45	—	—	1.05	—	—
7	1.3	1.4	1.7	3.2	3.05	5.5	2.3	—	—	—	—	2.1
8	1.2	1.35	1.7	3.25	3.55	5.55	2.1	—	1.05	—	—	—
9	1.2	1.35	1.75	3.55	3.55	5.6	1.95	—	—	—	—	—
10	1.15	1.4	1.8	3.85	3.55	5.45	1.85	—	—	—	1.0	—
11	1.2	1.4	1.05	3.85	3.6	5.3	2.1	—	—	—	—	—
12	1.25	1.45	1.05	4.05	3.6	5.4	1.95	—	—	—	—	—
13	1.25	1.45	2.55	3.05	3.7	4.05	1.9	—	—	1.05	—	—
14	1.3	1.5	2.7	3.85	3.05	4.0	1.8	—	—	—	—	—
15	1.35	1.6	2.3	3.85	4.1	4.85	1.75	—	2.25	—	—	2.05
16	—	1.8	—	3.0	4.3	4.75	1.7	—	—	—	—	—
17	1.3	2.0	1.85	4.0	4.5	4.75	1.05	—	—	—	1.85	—
18	—	—	1.8	4.15	4.5	4.7	1.55	—	—	—	—	—
19	1.2	—	1.8	4.25	4.45	4.55	—	—	—	1.7	—	—
20	1.15	—	1.8	4.25	4.35	4.35	1.55	—	—	—	—	—
21	1.15	2.15	1.8	4.2	4.25	4.45	1.5	—	—	—	—	2.01
22	1.8	2.1	1.85	4.15	4.25	3.05	—	—	1.8	—	—	—
23	1.05	2.0	2.1	4.1	4.2	3.85	—	2.3	—	—	—	1.75
24	1.0	1.05	2.45	4.2	4.2	3.05	—	—	—	—	—	—
25	1.55	1.05	3.3	4.25	4.25	3.50	—	2.2	—	—	—	—
26	1.0	1.0	3.8	4.3	4.35	3.45	—	—	—	1.8	—	—
27	1.75	1.8	3.55	4.25	4.4	3.35	—	—	—	—	—	—
28	1.5	1.8	3.3	4.05	4.7	3.3	—	—	—	—	—	2.25
29	1.45	—	3.05	3.75	4.05	3.25	—	—	1.05	—	—	—
30	1.4	—	2.0	3.55	5.25	3.15	—	—	—	—	—	—
31	1.4	—	2.0	—	5.35	—	—	—	—	—	—	—

**STATION RATING TABLE**  
**For Bear River near Collinston, Utah, from Jan. 1 to Dec. 31, 1906.**

Gage height,		Discharge,		Gage height,		Discharge,		Gage height,		Discharge,		Gage height,		Discharge,	
Feet	Sec-ft	Feet	Sec-ft	Feet	Sec-ft	Feet	Sec-ft	Feet	Sec-ft	Feet	Sec-ft	Feet	Sec-ft	Feet	Sec-ft
.00	2.00	1420	3.00	2550	4.00	3980	5.00	5640	4.00	-----	-----	.05	-----	-----	-----
.05	.05	-----	.05	-----	.05	-----	.05	-----	.05	-----	.05	-----	.05	-----	-----
.10	550	.10	1530	.10	2690	.10	-----	-----	.10	-----	.10	-----	.10	-----	-----
.15	-----	.15	-----	.15	-----	.15	-----	-----	.15	-----	.15	-----	.15	-----	-----
.20	620	.20	1610	.20	2830	.20	4300	.20	5980	.20	-----	-----	.20	-----	-----
.25	-----	.25	-----	.25	-----	.25	-----	-----	.25	-----	.25	-----	.25	-----	-----
.30	705	.30	1750	.30	2970	.30	-----	-----	.30	-----	.30	-----	.30	-----	-----
.35	-----	.35	-----	.35	-----	.35	-----	-----	.35	-----	.35	-----	.35	-----	-----
.40	805	.40	1860	.40	3110	.40	4620	.40	6320	.40	-----	-----	.40	-----	-----
.45	-----	.45	-----	.45	-----	.45	-----	-----	.45	-----	.45	-----	.45	-----	-----
.50	905	.50	1970	.50	3250	.50	-----	-----	.50	-----	.50	-----	.50	-----	-----
.55	-----	.55	-----	.55	-----	.55	-----	-----	.55	-----	.55	-----	.55	-----	-----
.60	1005	.60	2080	.60	3390	.60	4960	.60	6660	.60	-----	-----	.60	-----	-----
.65	-----	.65	-----	.65	-----	.65	-----	-----	.65	-----	.65	-----	.65	-----	-----
.70	1105	.70	2190	.70	3530	.70	-----	-----	.70	-----	.70	-----	.70	-----	-----
.75	-----	.75	-----	.75	-----	.75	-----	-----	.75	-----	.75	-----	.75	-----	-----
.80	1210	.80	2300	.80	3670	.80	5300	.80	7000	.80	-----	-----	.80	-----	-----
.85	-----	.85	-----	.85	-----	.85	-----	-----	.85	-----	.85	-----	.85	-----	-----
.90	1315	.90	2420	.90	3820	.90	-----	-----	.90	-----	.90	-----	.90	-----	-----
.95	-----	.95	-----	.95	-----	.95	-----	-----	.95	-----	.95	-----	.95	-----	-----

**ESTIMATED MONTHLY DISCHARGE  
 Of Bear River near Collinston, Utah, for 1906.  
 (Drainage area 6,000 square miles.)**

MONTH	Discharge in Second-Feet			Total in Acre-Feet	Run-off	
	Maximum	Minimum	Mean		Sec. ft. per sq. mile	Depth inches
January	1210	585	780	48,100	0.120	.15
February	1580	755	1100	61,100	.183	.18
March	3070	1000	1700	105,000	.283	.33
April	4460	2020	3700	220,000	.617	.60
May	6580	3250	4210	250,000	.702	.81
June	7080	2700	5000	303,000	.818	.95
July	2700	905	1630	93,000	.255	.20
August	-----	-----	1300	70,000	.217	.25
September	-----	-----	1370	81,500	.228	.25
October	-----	-----	1110	68,300	.165	.19
November	-----	-----	1270	75,000	.212	.24
December	-----	-----	1400	61,600	.250	.20
The year	-----	-----	2060	1,486,100	0.333	4.63

## Logan River near Logan, Utah

DISCHARGE MEASUREMENTS  
Of Logan River near Logan, Utah, in 1906.

Date	Hydrographer	Width Feet	Area of Sec. Square Feet	Mean Veloc. Ft. per Sec.	Gage height Feet	Discharge Sec.-feet
Feb. 23	V. G. Swendsen---	39	46.5	2.19	1.83	102
April 11	I. S. Kleinschmidt	67	68.0	3.59	2.24	244
May 5	I. S. Kleinschmidt	46	95.0	6.18	2.80	587
May 23	Hos. Grieve, Jr.	60	130.0	5.99	3.27	779
June 21	Hos. Grieve, Jr.	63	130.0	5.99	3.30	779
July 27	Hos. Grieve, Jr.	48	77.5	3.45	2.53	268

MEAN DAILY GAGE HEIGHT  
Of Logan River near Logan, Utah, for 1906.

Day	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
1	1.80	1.83	1.82	2.05	2.45	3.45	3.10	2.43	2.33	2.19	2.10	2.15
2	1.75	1.85	1.83	2.02	2.48	3.40	3.10	2.40	2.33	2.20	2.08	2.10
3	1.85	1.84	1.80	1.97	2.00	3.40	3.10	2.40	2.33	2.30	2.10	2.15
4	1.85	1.75	1.85	1.93	2.70	3.42	3.08	2.40	2.32	2.22	2.05	2.25
5	1.85	1.82	1.79	1.85	2.78	3.42	3.12	2.38	2.31	2.20	2.08	2.20
6	1.83	1.75	1.74	2.04	2.80	3.50	3.00	2.38	2.30	2.15	2.20	2.15
7	1.83	1.72	1.75	2.00	2.78	3.42	2.00	2.35	2.30	2.15	2.10	2.15
8	1.83	1.78	1.78	2.15	2.85	3.40	2.80	2.35	2.30	2.20	2.00	2.15
9	1.86	1.84	1.78	2.20	2.98	3.38	2.85	2.32	2.29	2.20	2.10	2.15
10	1.80	1.84	1.79	2.20	3.02	3.35	2.90	2.32	2.28	2.20	2.10	2.15
11	1.85	1.66	1.80	2.22	3.10	3.40	2.83	2.32	2.25	2.15	2.00	2.15
12	1.00	1.82	1.80	2.20	3.18	3.52	2.80	2.32	2.25	2.15	2.00	2.15
13	1.83	1.84	1.90	2.20	3.08	3.55	2.80	2.32	2.25	2.13	2.10	2.15
14	1.85	1.85	1.80	2.21	3.08	3.53	2.75	2.48	2.25	2.13	2.30	2.15
15	1.00	1.85	1.85	2.20	3.10	3.00	2.70	2.30	2.20	2.10	2.30	2.10
16	1.83	1.86	1.73	2.73	3.00	3.60	2.70	2.78	2.23	2.00	2.00	2.10
17	1.86	1.85	1.75	2.32	2.00	3.55	2.70	2.28	2.23	2.05	2.10	2.10
18	1.88	1.85	1.77	2.45	2.85	3.50	2.65	2.25	2.23	2.05	1.00	2.10
19	1.93	1.80	1.70	2.42	2.87	3.46	2.00	2.28	2.21	2.20	1.00	2.15
20	2.08	1.77	1.70	2.45	3.00	3.42	2.60	2.30	2.20	2.00	2.00	2.20
21	1.70	1.78	1.80	2.45	3.03	3.40	2.68	2.55	2.20	2.00	2.00	2.15
22	1.73	1.70	1.80	2.52	3.10	3.40	2.55	2.00	2.30	2.10	2.10	2.15
23	1.00	1.88	1.81	2.47	3.13	3.38	2.55	2.45	2.30	2.20	2.05	2.10
24	1.85	1.74	1.81	2.48	3.40	3.35	2.52	2.43	2.22	2.50	2.10	2.10
25	1.83	1.80	1.93	2.47	3.40	3.18	2.50	2.38	2.21	2.20	2.20	2.20
26	1.83	2.84	1.93	2.40	3.60	3.20	2.50	2.38	2.21	2.20	2.20	2.15
27	1.85	1.81	1.90	2.38	3.80	3.22	2.48	2.37	2.10	2.20	2.20	2.20
28	1.85	1.81	1.90	2.38	3.80	3.15	2.45	2.35	2.18	2.15	2.20	2.15
29	1.80	1.93	2.37	3.70	3.15	2.45	2.35	2.18	2.10	2.20	2.15	2.15
30	1.70	2.00	2.42	3.55	3.13	2.45	2.34	2.20	2.10	2.20	2.15	2.15
31	1.80	2.00	-----	3.50	2.45	2.33	2.10	2.10	2.10	2.10	2.15	2.15

STATION RATING TABLE  
For Logan River near Logan, Utah, from Jan. 1 to Dec. 31, 1906.

Gage height,		Discharge,		Gage height,		Discharge,		Gage height,		Discharge,		Gage height,		Discharge,	
Feet	Sec-ft	Feet	Sec-ft	Feet	Sec-ft	Feet	Sec-ft	Feet	Sec-ft	Feet	Sec-ft	Feet	Sec-ft	Feet	Sec-ft
1.00	2.00	158	3.00	616	4.00	—	.00	—	.00	—	.00	—	.00	—	.00
.05	.05	—	.05	—	.05	—	.05	—	.05	—	.05	—	.05	—	.05
.10	.10	194	.10	672	.10	—	.10	—	.10	—	.10	—	.10	—	.10
.15	.15	—	.15	—	.15	—	.15	—	.15	—	.15	—	.15	—	.15
.20	.20	232	.20	728	.20	—	.20	—	.20	—	.20	—	.20	—	.20
.25	.25	—	.25	—	.25	—	.25	—	.25	—	.25	—	.25	—	.25
.30	.30	274	.30	786	.30	—	.30	—	.30	—	.30	—	.30	—	.30
.35	.35	—	.35	—	.35	—	.35	—	.35	—	.35	—	.35	—	.35
.40	.40	318	.40	844	.40	—	.40	—	.40	—	.40	—	.40	—	.40
.45	.45	—	.45	—	.45	—	.45	—	.45	—	.45	—	.45	—	.45
.50	.50	362	.50	904	.50	—	.50	—	.50	—	.50	—	.50	—	.50
.55	.55	—	.55	—	.55	—	.55	—	.55	—	.55	—	.55	—	.55
.60	.30	.60	.60	964	.60	—	.60	—	.60	—	.60	—	.60	—	.60
.65	.65	—	.65	—	.65	—	.65	—	.65	—	.65	—	.65	—	.65
.70	.60	.70	.70	1026	.70	—	.70	—	.70	—	.70	—	.70	—	.70
.75	.75	—	.75	—	.75	—	.75	—	.75	—	.75	—	.75	—	.75
.80	.92	.80	.80	510	.80	1088	.80	—	.80	—	.80	—	.80	—	.80
.85	.85	—	.85	—	.85	—	.85	—	.85	—	.85	—	.85	—	.85
.90	124	.90	.90	562	.90	—	.90	—	.90	—	.90	—	.90	—	.90
.95	.95	—	.95	—	.95	—	.95	—	.95	—	.95	—	.95	—	.95

ESTIMATED MONTHLY DISCHARGE  
Of Logan River near Logan, Utah, for 1906,  
(Drainage area 218 square miles.)

MONTH	Discharge in Second-Feet			Total in Acre-Feet	Run-off	
	Maximum	Minimum	Mean		Sec. ft.	Depth per sq. mile
January	187	80	104	6,400	0.477	0.55
February	114	60	85	5,280	.430	.45
March	158	70	102	5,270	.408	.51
April	380	108	203	15,000	1.21	1.35
May	1000	310	663	40,800	3.01	3.60
June	964	680	813	50,200	3.87	4.32
July	672	310	476	29,300	2.18	2.51
August	552	253	312	19,200	1.43	1.05
September	287	224	256	15,200	1.17	1.30
October	362	158	218	13,400	1.00	1.15
November	274	124	193	11,500	0.885	0.99
December	253	104	212	13,000	0.972	1.12
The year	1090	60	311	226,000	1.43	10.43

## Blacksmith Fork near Hyrum, Utah.

DISCHARGE MEASUREMENT  
Of Blacksmith Fork near Hyrum, Utah, in 1906.

Date	Hydrographer	Width Feet	Area of Sec. Square feet	Mean Veloc. Ft. per Sec.	Gage height Feet	Discharge Sec.-feet
March 18	W. G. Swendsen	32.5	21.6	1.62	3.33	35
May 5	H. S. Kleinschmidt	40.	54.7	3.18	4.08	184
May 23	Thos. Grieve, Jr.	40.	51.3	2.92	3.90	150
June 21	Thos. Grieve, Jr.	39.	46.6	2.49	3.85	116
July 22	Thos. Grieve, Jr.	38.	37.4	1.92	3.59	72

MEAN DAILY GAGE HEIGHT  
Of Blacksmith Fork near Hyrum, Utah, for 1906.

Dey.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
1	3.3	3.3	3.4	3.5	3.9	4.4	3.7	3.6	3.6	3.5	3.4	3.3
2	3.3	3.3	3.4	3.4	3.9	4.4	3.7	3.6	3.6	3.5	3.4	3.3
3	3.3	3.4	3.3	3.4	3.9	4.3	3.7	3.6	3.6	3.5	3.4	3.3
4	3.4	3.4	3.3	3.4	4.1	4.2	3.7	3.6	3.6	3.5	3.4	3.3
5	3.4	3.3	3.3	3.4	4.1	4.1	3.7	3.6	3.5	3.5	3.4	3.3
6	3.4	3.3	3.3	3.4	4.1	4.2	3.7	3.6	3.5	3.5	3.4	3.3
7	3.3	3.3	3.3	3.4	4.1	4.3	3.6	3.6	3.5	3.5	3.4	3.3
8	3.3	3.3	3.3	3.7	4.1	4.3	3.6	3.6	3.5	3.5	3.4	3.3
9	3.3	3.3	3.3	3.8	4.2	4.2	3.6	3.5	3.5	3.5	3.4	3.3
10	3.4	3.3	3.3	3.8	4.2	4.1	3.6	3.5	3.5	3.5	3.4	3.3
11	3.3	3.3	3.35	3.7	4.2	4.1	3.6	3.5	3.5	3.5	3.4	3.4
12	3.4	3.3	3.35	3.7	4.2	4.1	3.6	3.5	3.5	3.5	3.4	3.4
13	3.4	3.3	3.3	3.7	4.2	4.1	3.6	3.5	3.5	3.5	3.4	3.4
14	3.3	3.3	3.3	3.6	4.2	4.1	3.6	3.5	3.5	3.5	3.4	3.4
15	3.3	3.4	3.3	3.6	4.2	3.9	3.6	3.5	3.5	3.5	3.3	3.4
16	3.4	3.3	3.3	3.6	4.2	3.9	3.6	3.5	3.5	3.5	3.3	3.4
17	3.3	3.3	3.3	3.8	4.2	3.9	3.6	3.5	3.5	3.5	3.3	3.4
18	3.4	3.3	3.3	3.8	4.1	3.9	3.6	3.5	3.5	3.5	3.7	3.4
19	3.4	3.3	3.3	3.9	3.9	3.9	3.6	3.5	3.5	3.5	3.3	3.4
20	3.3	3.3	3.3	3.9	4.1	3.9	3.6	3.7	3.5	3.5	3.3	3.4
21	3.4	3.3	3.3	4.2	3.9	3.9	3.6	3.7	3.5	3.5	3.3	3.4
22	3.4	3.3	3.3	4.2	3.9	3.9	3.6	3.7	3.5	3.5	3.7	3.4
23	3.3	3.3	3.3	4.2	3.9	3.8	3.6	3.6	3.6	3.5	3.45	3.3
24	3.3	3.3	3.3	4.2	3.8	3.8	3.6	3.6	3.6	3.5	3.45	3.3
25	3.3	3.3	3.3	3.9	3.8	3.8	3.6	3.6	3.6	3.5	3.45	3.3
26	3.4	3.3	3.4	3.8	3.9	3.8	3.6	3.5	3.5	3.5	3.4	3.4
27	3.4	3.3	3.4	3.8	4.1	3.7	3.6	3.5	3.5	3.4	3.3	3.4
28	3.3	3.4	3.4	3.8	4.2	3.7	3.6	3.5	3.5	3.4	3.3	3.4
29	3.3	3.4	3.4	3.8	4.5	3.7	3.6	3.5	3.5	3.4	3.3	3.4
30	3.3	3.4	3.4	3.9	4.5	3.7	3.6	3.5	3.5	3.4	3.3	3.4
31	3.3		3.5		4.5		3.6	3.5	3.5	3.4		

STATION RATING TABLE  
For Blacksmith Fork near Hyrum, Utah, from Jan. 1 to Dec. 31, 1906.

Gage height. Feet	Discharge. Sec-ft								
3.00		4.00	163	.00		.00		.00	
.05		.05		.05		.05		.05	
.10		.10	189	.10		.10		.10	
.15		.15		.15		.15		.15	
.20	18	.20	216	.20		.20		.20	
.25		.25		.25		.25		.25	
.30	29	.30	244	.30		.30		.30	
.35		.35		.35		.35		.35	
.40	42	.40	273	.40		.40		.40	
.45		.45		.45		.45		.45	
.50	57	.50	304	.50		.50		.50	
.55		.55		.55		.55		.55	
.60	75	.60	336	.60		.60		.60	
.65		.65		.65		.65		.65	
.70	94	.70	369	.70		.70		.70	
.75		.75		.75		.75		.75	
.80	115	.80	402	.80		.80		.80	
.85		.85		.85		.85		.85	
.90	138	.90		.90		.90		.90	
.95		.95		.95		.95		.95	

ESTIMATED MONTHLY DISCHARGE\*  
OF Blacksmith Fork near Hyrum, Utah, for 1906.  
(Draining area 286 square miles.)

MONTH	Discharge in Second-Feet				Run-off	
	Maximum	Minimum	Mean	Total in Acre-feet	Sec. ft. per sq. mile	Depth inches
January	42	20	35	2,150	0.422	.44
February	42	20	30	1,600	.405	.41
March	57	20	33	2,050	.415	.43
April	210	42	108	6,430	.377	.42
May	304	115	101	11,700	.007	.77
June	273	91	107	9,010	.581	.05
July	91	75	79	4,810	.270	.32
August	91	57	68	4,160	.238	.27
September	75	57	59	3,530	.200	.23
October	57	42	53	3,270	.185	.22
November	42	20	35	2,080	.122	.14
December	42	20	38	2,320	.133	.16
The year	304	20	75	51,200	0.261	.55

\*See page 653.

**Blacksmith Fork Power Plant Race near  
Hyrum, Utah.**

DISCHARGE MEASUREMENTS

Of Blacksmith Fork Power Plant Race near Hyrum, Utah, in 1906.

Date	Hydrographer	Width Feet	Area of Sec. Square feet	Mean Veloc. Ft. per Sec.	Gage height Feet	Discharge Sec.-feet
March 18	W. G. Swendsen	12.5	25.8	2.91	4.72	76
May 5	H. S. Kleinschmidt	13.4	28.5	3.09	4.90	88
June 21	Thos. Grileys, Jr.	14.0	26.2	3.47	4.95	91

MEAN DAILY GAGE HEIGHT

Of Blacksmith Fork Power Plant Race, near Hyrum, Utah, for 1906.

Day	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
1	4.7	4.7	4.8	4.0	4.0	4.0	4.5	4.0	4.0	4.8	4.7	4.7
2	4.7	4.7	4.7	4.0	4.0	4.0	4.5	4.0	4.0	4.8	4.7	4.7
3	4.7	4.8	4.7	4.0	4.0	4.0	4.5	4.0	4.0	4.8	4.7	4.6
4	4.7	4.8	4.7	4.0	4.0	4.0	4.5	4.0	4.0	4.8	4.7	4.6
5	4.0	4.7	4.7	4.0	4.0	5.1	4.5	4.0	4.0	4.8	4.7	4.6
6	4.8	4.7	4.7	4.0	4.0	5.1	4.5	4.0	4.0	4.8	4.7	4.6
7	4.7	4.7	4.7	4.0	4.0	5.1	4.5	4.0	4.0	4.8	4.7	4.6
8	4.7	4.7	4.7	4.8	4.0	4.0	4.5	4.0	4.0	4.8	4.7	4.6
9	4.7	4.7	4.7	4.8	4.5	4.0	4.0	4.0	4.0	4.8	4.7	4.6
10	4.0	4.7	4.7	4.8	4.5	4.0	4.0	4.0	4.0	4.8	4.7	4.7
11	4.8	4.7	4.75	4.8	4.5	4.0	4.0	4.0	4.0	4.8	4.7	4.7
12	4.8	4.7	4.75	4.8	4.0	4.0	4.0	4.0	4.0	4.8	4.7	4.7
13	4.8	4.7	4.7	4.8	4.0	4.0	4.0	4.0	4.0	4.8	4.7	4.7
14	4.0	4.7	4.7	4.4	4.0	4.0	4.0	4.0	4.0	4.8	4.6	4.7
15	4.0	4.7	4.7	4.4	4.0	4.0	4.0	4.0	4.0	4.8	4.6	4.7
16	4.0	4.7	4.7	4.4	4.0	4.0	4.0	4.0	4.0	4.8	4.6	4.7
17	4.0	4.7	4.7	4.4	4.0	4.0	4.0	4.0	4.0	4.8	4.6	4.7
18	4.0	4.7	4.7	4.4	4.0	4.0	4.0	4.0	4.0	4.8	4.6	4.7
19	4.0	4.7	4.7	4.4	4.5	4.0	4.0	4.0	4.0	4.8	4.6	4.7
20	4.0	4.7	4.7	4.4	4.0	4.0	4.0	4.0	4.0	4.8	4.6	4.7
21	4.7	4.7	4.7	4.0	4.8	4.0	4.0	4.0	4.0	4.8	4.7	4.7
22	4.8	4.7	4.7	4.0	4.8	4.0	4.0	4.0	4.0	4.8	4.7	4.7
23	4.7	4.7	4.7	4.0	4.8	4.0	4.0	4.0	4.0	4.8	4.7	4.7
24	4.7	4.7	4.7	4.0	4.8	4.5	4.0	4.0	4.0	4.8	4.7	4.7
25	4.7	4.7	4.0	4.0	4.8	4.5	4.0	4.0	4.0	4.8	4.7	4.7
26	4.8	4.7	4.0	4.0	4.8	4.5	4.0	4.0	4.0	4.8	4.7	4.6
27	4.8	4.7	4.0	4.0	4.9	4.5	4.0	4.0	4.0	4.8	4.7	4.6
28	4.7	4.7	4.0	4.0	4.0	4.5	4.0	4.0	4.0	4.8	4.7	4.6
29	4.7	4.7	4.0	4.0	4.0	4.5	4.0	4.0	4.0	4.8	4.7	4.6
30	4.7	4.7	5.0	4.0	4.0	4.5	4.0	4.0	4.0	4.8	4.7	4.6
31	4.7	4.7	5.0	4.0	4.0	4.0	4.0	4.0	4.0	4.8	4.7	4.6

**ESTIMATED MONTHLY DISCHARGE**  
Of Blacksmith Fork Power Plant Race near Hyrum, Utah, for 1906.

MONTH	Discharge in Second-Feet			Total in Aero-Feet
	Maximum	Minimum	Mean	
January	88	66	78	4,780
February	80	73	74	4,100
March	96	73	77	4,750
April	88	25	61	3,600
May	88	58	83	5,080
June	101	58	82	4,860
July	88	58	80	4,940
August	88	88	88	5,410
September	88	80	84	4,970
October	80	80	80	4,920
November	73	66	72	4,260
December	73	66	70	4,310
The year	101	25	77	50,000

Note.—To obtain total discharge of Blacksmith Fork add discharge of Power Plant Race to that of Blacksmith Fork given in the table.

**Provo River above Telluride Power Co.'s Dam near Provo, Utah.**

**DISCHARGE MEASUREMENTS**  
Of Provo River above Telluride Power Co.'s Dam, near Provo, Utah, in 1906.

Date	Hydrographer	Width Feet	Area of Sec. Square feet	Mean Veloc. Ft. per Sec.	Gage height Feet	Discharge Sec-feet
Feb. 11	W. H. Swendsen	60	113	1.07	3.80	222
May 10	H. S. Kleinsehnldt	70	222	4.00	5.30	880
June 3	Thos. Grive, Jr.	80	244	4.70	5.40	903
June 13	Thos. Grive, Jr.	90	306	4.45	7.00	1762
July 7	Thos. Grive, Jr.	71	150	2.68	4.20	402

## MEAN DAILY GAGE HEIGHT

Of Provo River above Telluride Power Co.'s Dam, near Provo, Utah, for 1906.

Day.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
1	3.8	3.8	4.0	4.05	4.5	6.2	4.45	3.85	4.0	3.9	4.1	3.8
2	4.0	3.8	3.9	4.4	4.5	5.7	4.45	3.9	4.05	3.9	4.05	3.8
3	4.1	3.7	3.9	4.55	4.5	5.35	4.45	3.9	4.05	3.8	4.05	3.8
4	3.8	3.7	3.05	4.1	4.6	5.4	4.45	3.95	4.05	3.8	4.0	4.1
5	3.85	3.7	3.85	4.1	4.8	5.4	4.4	3.9	4.05	3.8	4.0	4.15
6	3.9	3.05	3.8	4.1	5.0	5.5	4.4	3.85	4.0	3.9	4.05	4.0
7	3.9	3.5	3.85	4.15	4.1	6.4	4.35	3.8	4.0	3.9	4.0	4.0
8	4.25	3.7	3.85	4.25	4.9	5.7	4.3	3.8	4.0	3.9	4.0	4.0
9	4.25	3.6	3.0	4.35	5.0	5.3	4.15	3.8	4.0	3.9	3.95	4.0
10	5.0	3.7	3.05	4.5	5.3	5.5	4.1	3.8	3.05	3.9	3.95	4.05
11	4.0	3.85	4.0	4.5	5.4	5.35	3.95	3.75	3.95	3.9	3.95	4.1
12	3.75	3.75	4.8	4.5	6.2	6.3	3.9	3.75	3.95	3.9	3.9	4.15
13	3.8	3.75	4.5	4.35	6.3	6.7	3.9	3.75	3.95	3.9	3.9	4.3
14	3.8	4.2	4.3	5.7	7.1	3.95	3.7	4.0	3.9	3.95	4.1	
15	4.1	3.0	4.1	4.4	5.4	6.7	4.0	3.7	4.0	3.9	3.95	3.9
16	3.95	4.0	3.8	4.45	5.3	6.5	3.05	3.7	4.0	3.85	3.95	3.9
17	4.0	3.9	3.9	4.6	5.2	6.5	3.05	3.7	4.0	3.85	4.0	4.0
18	3.05	3.9	3.95	4.8	5.0	.60	3.9	3.7	4.0	3.8	4.0	4.0
19	4.6	4.1	3.8	4.8	5.1	5.8	3.0	3.75	4.0	3.8	3.8	4.0
20	4.0	4.6	3.9	4.75	5.6	5.6	3.0	4.05	4.0	3.8	3.7	4.0
21	4.5	4.0	3.95	4.8	5.8	5.4	3.9	3.95	3.95	3.8	3.0	3.0
22	3.75	4.0	4.1	4.9	6.0	5.3	3.9	4.15	3.0	3.8	3.0	3.0
23	3.0	3.9	4.2	5.1	6.1	5.2	4.0	4.0	3.95	3.8	4.0	3.0
24	3.95	3.9	4.55	5.0	6.1	5.2	4.0	3.95	3.0	3.8	4.0	4.0
25	3.0	3.9	4.85	4.9	6.1	5.3	3.05	3.0	3.0	3.8	4.0	4.0
26	3.8	3.9	4.5	4.8	6.8	5.4	3.95	3.95	3.85	3.8	4.0	4.4
27	3.8	3.85	4.4	4.7	6.3	5.8	3.05	3.0	3.0	3.95	3.0	4.45
28	3.8	3.05	4.4	4.6	6.2	5.6	3.0	3.0	3.0	3.85	3.0	4.2
29	3.8	-----	4.3	4.6	6.4	4.05	3.9	3.95	3.0	3.0	3.0	4.1
30	3.7	-----	4.4	4.65	6.2	4.5	3.8	3.9	3.0	3.0	3.8	4.0
31	3.05	-----	4.5	-----	5.7	-----	3.8	3.05	3.0	3.0	-----	4.05

**STATION RATING TABLE**  
**For Provo River above Telluride Power Co.'s Dam, near Provo, Utah, from**  
**Jan. 1 to Dec. 31, 1906.**

Gage height. Feet	Discharge. Sec- ft										
3.00		4.00		5.00		6.00		7.00		8.00	
.05		.05		.05		.05		.05		.05	
.10		.10		.10		.10		.10		.10	
.15		.15		.15		.15		.15		.15	
.20		.20		.20		.20		.20		.20	
.25		.25		.25		.25		.25		.25	
.30		.30		.30		.30		.30		.30	
.35		.35		.35		.35		.35		.35	
.40		.40		.40		.40		.40		.40	
.45		.45		.45		.45		.45		.45	
.50	100	.50	530	.50	1001	.50	50	.50	50	.50	
.55		.55		.55		.55		.55		.55	
.60	142	.60	576	.60	1050	.60	1526	.60	60		
.65		.65		.65		.65		.65		.65	
.70	184	.70	622	.70	1089	.70	70		.70		
.75		.75		.75		.75		.75		.75	
.80	226	.80	670	.80	1146	.80	1626	.80		.80	
.85		.85		.85		.85		.85		.85	
.90	268	.90	718	.90	1191	.90		.90		.90	
.95		.95		.95		.95		.95		.95	

**ESTIMATED MONTHLY DISCHARGE**  
**OF Provo River above Telluride Power Co.'s Dam near Provo, Utah for 1906.**  
**(Drainage area 600 square miles.)**

MONTH	Discharge in Second-Feet			Total in Acre-Feet	Run-off	
	Maximum	Minimum	Mean		Sec. ft. per sq. mile	Depth inches
January	570	103	303	18,000	0.605	0.58
February	354	100	238	13,200	.307	.41
March	694	226	370	22,800	.017	.71
April	814	354	550	33,100	.027	1.11
May	1630	354	900	61,400	1.07	1.02
June	1880	530	1110	66,000	1.85	2.00
July	508	226	337	20,700	.502	.65
August	376	184	251	15,400	.418	.48
September	332	247	207	17,700	.405	.55
October	268	226	246	15,300	.415	.48
November	354	184	200	17,300	.483	.51
December	508	226	327	20,100	.545	.63
The year	1880	100	403	321,600	0.74	10.12

## Hobble Creek near Springville, Utah.

### DISCHARGE MEASUREMENTS Of Hobble Creek near Springville, Utah, in 1906.

Date	Hydrographer	Width Feet	Area of Sec Square feet	Mean Veloc. Ft. per Sec.	Gage height Feet	Discharge Sec. feet
July 3	Thos. Grieve, Jr.	18.5	17.8	3.71	1.95	66
August 7	Thos. Grieve, Jr.	17.5	16.1	1.18	1.55	19

### MEAN DAILY GAGE HEIGHT Of Hobble Creek near Springville, Utah, for 1906.

Day.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
1		1.25		1.7	2.5	2.5	1.85	1.65	1.55	1.5	1.55	
2		1.25		1.7	2.15	2.45	1.85	1.6	1.6	1.5	1.55	
3			1.2		1.6	2.7	2.4	1.9	1.6	1.6	1.5	1.5
4					1.35	3.3	2.35	1.9	1.6	1.55	1.55	
5					1.2	1.35	1.55	3.8	2.35	1.85	1.55	1.55
6						1.6	4.0	2.45	1.85	1.55	1.55	1.45
7		1.25	1.2	1.25	1.7	3.7			1.85	1.5	1.55	1.5
8						1.88	3.7	2.3	1.85	1.55	1.55	1.5
9						1.2	1.25	2.1	3.8	2.25	1.85	1.55
10						1.25	1.3	2.35	3.9	2.25	1.8	1.55
11						1.3	2.5	3.9		1.8	1.55	1.55
12						1.35	2.35		2.2	1.75		1.45
13						1.2	2.45	4.0	2.2	1.75	1.5	1.65
14						1.35	2.4	3.4	2.2	1.75	1.65	1.55
15						2.0	3.4	2.15	1.75	1.55	1.55	1.5
16						1.3	2.02	3.3	2.15	1.75	1.5	
17						1.3	1.3	3.35	3.2	2.15	1.75	1.55
18						1.3	4.0	3.4	2.15	1.75	1.55	1.55
19						1.35	1.3	3.0	3.2	.21	1.75	
20						1.25	1.3	3.0		2.0	1.75	1.7
21						1.3	1.35	3.85	3.2		1.7	1.7
22							1.35		3.0	1.95	1.0	1.65
23							1.3	1.3	1.35	3.0	3.0	
24							1.3	1.4	3.3	2.0		1.0
25							1.25	1.3	1.45	3.0	2.7	1.0
26							1.25	1.25	1.55	2.7	2.7	1.85
27							1.2	1.3	1.6	2.5	2.8	1.85
28									1.05	2.5	3.0	1.0
29									1.0	2.8	1.8	
30										1.0	1.57	1.4
31										1.05	2.0	1.55

## Sevier River near Gunnison, Utah

### DISCHARGE MEASUREMENTS

Of Sevier River near Gunnison, Utah, in 1906.

Date	Hydrographer	Width Feet	Area of Sec. Square feet	Mean Veloc. Ft. per Sec.	Gage height Feet	Discharge Sec.-feet
April 25	H. S. Kleinschmidt	60	210	2.55	3.52	563
May 21	C. Tanner	78	401	4.38	5.65	1770
May 29	Thos. Grieve, Jr.	79	519	4.87	6.27	2530
July 17	Thos. Grieve, Jr.	42	126	0.33	0.95	42

### MEAN DAILY GAGE HEIGHT

Of Sevier River near Gunnison, Utah, for 1906.

Day.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
1	2.38	—	2.90	3.50	5.70	3.80	—	2.00	2.60	2.40	2.72	—
2	2.38	—	2.80	3.60	5.66	3.70	—	2.00	2.58	2.46	2.76	—
3	2.38	1.60	2.74	3.74	5.62	3.70	2.00	2.02	2.54	2.44	2.80	—
4	2.00	2.38	—	2.72	3.76	5.40	3.70	1.90	2.01	2.51	2.40	2.80
5	2.38	1.45	2.70	3.80	5.30	—	—	1.90	2.22	2.52	2.42	2.86
6	2.38	1.71	2.90	3.86	5.10	3.08	1.84	2.30	2.50	2.40	2.86	—
7	2.08	2.38	1.82	3.30	3.90	5.06	3.62	1.80	2.30	2.42	2.36	2.84
8	2.38	1.86	3.20	3.84	4.96	3.62	1.80	2.30	2.30	2.36	2.90	—
9	2.38	2.02	3.22	3.94	4.70	3.62	1.76	2.20	2.80	2.31	2.00	—
10	4.10	2.40	2.00	3.24	4.01	4.72	3.00	1.70	2.20	2.20	2.31	2.86
11	2.50	2.78	3.26	4.10	4.80	2.70	1.84	2.10	2.22	2.30	2.84	—
12	2.02	2.78	3.14	4.26	4.72	—	—	1.75	1.00	2.20	2.30	2.82
13	2.80	2.72	3.10	4.50	4.78	—	—	1.70	1.00	2.00	2.30	2.82
14	4.00	2.90	2.58	3.00	4.50	4.70	—	1.70	1.00	2.02	2.30	2.82
15	2.82	2.40	3.02	4.70	4.68	—	—	1.72	1.00	2.00	2.32	2.80
16	2.82	—	3.01	4.90	4.60	—	—	1.72	2.00	2.04	2.30	2.80
17	2.70	2.20	3.20	5.10	4.60	0.05	1.70	2.42	2.00	2.32	2.80	—
18	2.74	2.28	3.22	5.30	4.61	1.00	1.81	2.40	2.10	2.32	2.80	—
19	2.50	2.24	3.20	5.14	4.50	1.20	1.70	2.40	2.14	—	2.82	—
20	3.70	2.50	2.21	3.24	5.00	1.20	1.12	1.00	2.44	2.12	2.31	2.82
21	2.46	2.38	3.23	5.72	4.10	1.14	2.12	2.44	2.10	2.30	2.80	—
22	3.00	2.40	2.41	3.20	5.86	3.00	1.22	2.20	2.40	2.20	2.31	2.81
23	2.20	2.50	3.40	5.00	3.78	1.24	2.20	2.60	2.20	2.34	2.80	—
24	2.16	2.20	2.50	3.44	6.00	3.60	1.32	2.00	2.60	2.18	2.46	2.80
25	2.44	2.08	2.70	3.50	0.00	3.40	1.24	3.10	2.60	2.20	2.60	2.82
26	2.40	2.20	2.70	3.44	0.20	3.40	1.30	2.00	2.60	2.22	2.60	2.80
27	2.40	2.00	2.81	3.31	—	3.18	1.34	2.50	2.00	2.22	2.60	—
28	2.00	2.90	3.31	6.34	3.10	1.34	2.36	2.60	2.24	2.64	—	—
29	2.40	—	2.02	3.36	—	3.04	1.31	2.20	2.02	2.20	2.60	2.81
30	—	—	2.02	3.52	0.04	2.00	—	2.20	2.02	2.20	2.60	2.81
31	—	—	2.00	—	5.80	—	—	2.20	—	2.28	—	2.81

ESTIMATED MONTHLY DISCHARGE  
Of Sevier River near Gunnison, Utah, for 1906.  
(Drainage area 3986 square miles.)

MONTH	Discharge in Second-Feet			Total in Acre-Feet	Run-off	
	Maximum	Minimum	Mean		Sec. ft. per sq. mile	Depth inches
January -	740	190	340	20,000	0.085	.10
February -	360	190	270	15,000	.068	.08
March -	365	110	270	16,600	.068	.08
April -	510	315	460	27,400	.115	.13
May -	2620	510	1080	66,400	.271	.31
June -	1770	360	915	54,500	.229	.25
July -	600	40	225	13,800	.056	.06
August -	405	135	100	11,700	.047	.05
September -	295	170	230	13,700	.058	.07
October -	335	190	230	14,100	.058	.07
November -	305	210	200	15,500	.065	.07
December -	360	310	270	16,600	.068	.08
The year -	2020	40	380	285,200	0.009	1.35

## Sevier River near Marysvale, Utah.

DISCHARGE MEASUREMENTS  
Of Sevier River near Marysvale, Utah, in 1906.

Date	Hydrographer	Width Feet	Area of Sec. Square feet	Mean Veloc. Ft. per Sec.	Gage height Feet	Discharge Sec.-feet
April 24	H. S. Kleinschmidt	55	221	3.05	4.85	673
July 19	Thos. Grieve, Jr.	49	128	2.03	3.94	280

MEAN DAILY GAGE HEIGHT  
Of Sevier River near Marysvale, Utah, for 1906.

Day.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
1			2.78	2.60	5.00	7.27						
2			2.60	2.70	4.80	6.97						
3			2.40	2.60	4.70	6.77						
4			2.45	2.60	4.70	6.65						
5			2.45	2.55	4.00	6.52						
6			2.35	2.55	5.20	6.52						
7			2.32	2.80	5.40	5.40	6.55					
8			2.40	2.05	5.55	6.52						
9			2.40	2.00	5.80	6.17						
10			2.50	2.00		6.00						
11			2.50	2.00		6.00						
12			2.55	2.00		6.17						
13			2.50	2.00		5.00						
14			2.60	2.80		5.40						
15			2.60	2.80		5.60						
17			2.50	3.00		5.40						
18			2.73	2.55	3.25	5.30						
19			2.50	3.40		5.10						
20			2.45	3.00		4.05						
21			2.70	2.52	3.76	4.80						
22			2.70	2.55	4.00	4.70						
23			2.50	2.55	4.30	8.67	4.40					
24			2.50	2.60	4.70	8.47	4.20					
25			2.50	2.80	5.00	8.42	4.00					
26			2.50	3.03	5.10	8.17	3.80					
27			2.55	3.00	5.00	7.87	3.76					
28			2.00	2.80	4.00	7.86	3.65					
29					2.70	4.00	7.02	3.60				
30					2.70	5.10	7.07	3.40				
31					2.05	7.50						

## Strawberry River in Strawberry Valley, Utah.

DISCHARGE MEASUREMENTS  
Of Strawberry River at Strawberry Valley, near Heber, Utah, (40 miles from)  
in 1906.

Date	Hydrographer	Width Feet	Area of Sec. Square feet	Mean Veloc. Ft. per Sec.	Gage height Feet	Discharge Sec.-feet
January 7	A. B. Larson	23	35	0.95	2.13	36
January 10	A. B. Larson	22	37.2	.85	2.15	32
January 13	A. B. Larson	21	38.3	.85	2.25	34
January 15	A. B. Larson	21	25.2	.54	1.61	13.5
January 16	A. B. Larson	21	27.0	.61	1.89	18
January 18	A. B. Larson	20.5	30.2	.71	2.65	26
January 22	A. B. Larson	20.5	34.6	.66	2.50	23
February 12	H. S. Kleinsemidt	16.0	15.2	2.27	2.65	34
February 18	H. S. Kleinsemidt	16.0	15.2	2.00	2.70	30
March 10	H. S. Kleinsemidt	16.0	14.5	1.45	3.25	21
March 21	H. S. Kleinsemidt	15.5	15.6	1.22	3.50	49
April 13	H. W. Sholey	20	20	0.93	3.45	18
April 15	A. B. Larson	35	80	1.52	3.45	131
April 19	A. B. Larson	40	132	2.10	4.05	285
April 20	A. B. Larson	52	123	2.82	3.64	345
April 21	A. B. Larson	58	168	2.80	3.55	470
April 22	A. B. Larson	50	211	3.02	4.15	637
April 23	A. B. Larson	58	191	2.90	3.86	552
April 27	A. B. Larson	58	144	2.53	3.12	305
April 29	A. B. Larson	50	222	3.13	4.34	901
May 3	A. B. Larson	62	270	3.24	4.03	874
May 4	A. B. Larson	63	207	3.31	5.32	985
May 7	A. B. Larson	61	250	3.14	4.70	789
June 18	A. B. Larson	60	160	1.51	2.05	241

It will be noticed that the gage heights and discharges in the foregoing list of measurements of Strawberry River are not consistent. This is due to ice conditions, which were as follows:

Beginning in January ice covered the river from bank to bank from 12 to 18 inches in thickness, leaving water space underneath of from 2 to 10 inches. Gage heights

were observed by cutting ice free around gage and observing surface of water as it rose in the hole. Beginning Feb. 18 water began to appear on top of the ice under the snow covering, due to thawing during the day. This increased to 1 foot depth on March 21, when the ice began to thaw. The river channel was clear of ice on April 21. Discharge measurements were made while the ice bridge lasted by cutting holes in the ice.

These measurements are considered unreliable in all respects due to the very poor conditions under which they were made.

H. S. KLEINSCHMIDT.

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